THE BUILDER

Incorporating ARCHITECTURE & THE BRITISH ARCHITECT

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STREAMLINING BUILDING LEGISLATION

THE symposium on office buildings held last week at the RIBA was timely. The first batch of buildings of this class arising from the removal of building licensing is now in various stages of completion. A very large amount of office building, however, still lies ahead, for not only is there much war damage in our cities yet to be made good but there are also vast numbers of obsolete and makeshift buildings, at present being used as offices, which require replacing in the interests of efficiency, comfort and amenity.

The attendance indicated the interest and approval aroused by this comparatively new type of meeting fostered since the war by both RIBA and the Architectural Association, and much used by other professions. In striking contrast to the single papers on special building types sometimes given in the past by architects eminent in their particular field, when in the space of an hour or less the impossible was attempted and often nothing much achieved other than the opportunity of hearing a well-known personality speak, the symposium—through a collection of prepared papers throwing light on different facets of the subject—seeks to summarise progress to date, to expose the problems of the present, to outline the means available for their solution, and forecast the likely course of future events, all with the object of raising the general standard of competence within the profession and providing the public with better value for the money they invest in building.

The symposium aims to lessen waste and duplication of effort caused by different people in isolation trying to solve similar problems, ignorant of each other's efforts. In the space of a day or an afternoon and evening it can hardly hope to state all that is known by the leading practitioners in any particular field, and still less to offer them any instruction. What it does aim to do is to raise the average standard of knowledge, and, as this is one of the most urgent needs throughout the whole building industry to-day, it would seem that its technique might profitably be more widely explored. To achieve the desired result, publication by the sponsors of a full report is essential.

As the RIBA is to publish the proceedings of the symposium on office buildings, we do not propose here to attempt any description of the individual papers. Sir William Holford very appropriately and ably occupied the chair, and opened the subject with a paper on the setting of the office building, a paper with enough substance in it to form the theme of a symposium by itself. The speakers who followed brought out clearly the great diversity of problems which surround the present-day development of what is normally considered a simple building type, and the even greater ones which probably lie ahead in the pursuit of higher standards of heating, ventilation, lighting, noise control and flexibility.

Diversity of viewpoint was not absent, showing a need for research to change opinions into facts in respect of some of the matters discussed. There was some overlapping, but not much considering that the speakers had not met together before the meeting. The second paper, by Mr. A. N. Marr, an executive of Imperial Chemical Industries, Ltd., on the client's requirements was, as might be expected from a firm with such great experience of building, a very complete exposition. Mr. Marr very commendably confined himself to stating requirements, none of them impractical of solution, but it was obvious that he also knew a great many of the answers. Mr. Fitzroy Robinson had the difficult task of giving an historical survey of office building planning in this country and in the United States from the middle 'twenties, a review of present-day design in Britain, and a glance at possible future trends. It was well done, but the historical part might well have been cut to give more time for what is happening

to-day, for, as Sir William Holford said, this was a working symposium, and those who came to it might be presumed to know their history.

Heating, ventilation, light, sound and structure were all dealt with as fully as could be expected in the time, and always in such a manner as to expose the main paths of progress and the principal problems which designers are trying to solve now and which are likely to absorb their thought for a considerable number of years.

Mr. J. R. Kell, of Oscar Faber and Partners, treated his subject in just the right degree of detail for the purpose, and gave as his opinion that, on account of relative installation costs, ordinary radiators and convectors still hold their place ; that embedded hot-water ceiling panels are still the most satisfactory next stage in refinement—a statement which was challenged; that a need for noise reduction led naturally to the heated acoustic ceiling, in which artificial lighting could also logically be incorporated; but, that where double windows were also required to exclude noise, ventilation, with or without air conditioning, would be required, and that in this field progress lay in the direction of small-bore high velocity ducting.

Mr. J. B. Bickerdike, in his paper on light, was provocative, and in consequence came in for a good deal of sniping in the later discussion. Mr. F. J. Samuely treated structure as one would expect, in a manner which showed an appreciation of the architect's approach to design. If at first it seemed surprising that he never mentioned steel construction, confining himself to reinforced concrete, principally precast, it is perhaps reasonable that he should have devoted the limited time at his disposal to what appear to be the most significant developments which are taking place.

Mr. Hope Bagenal, towards the end of a marathon session which tried one's ability to sit still in one place, dealt wittily and penetratingly with the problems of noise in a manner which made every word a delight to listen to. By the end of the afternoon a fairly clear pattern had emerged. Everyone seemed agreed that greater convenience and comfort would be the main lines of progress, with some doubt as to whether it could be afforded. Each problem seemed to impinge on the other, and to offer scope for much ingenuity in design in the next few years.

The discussion which followed added some useful thoughts to what had gone before. Mr. John Lacey feared that the new " bigness " which seems to be coming in the rebuilding of our cities would only produce a new dullness and a loss of the intimate and friendly scale of the present alleyways and streets. Mr. R. N. Wakelin emphasised economics, and Mr. Birkin Haward discussed the determination of the most convenient window module and its uncompromising adoption as a controlling factor in design.

All these were speakers who had been invited to contribute, but it was left to Mr. A. R. F. Anderson from the floor of the hall to speak on a matter which no one else had touched—namely, the vexatious length of time involved in getting planning, by-law and the many other consents which are often necessary, and the frustrations of dealing with many different authorities, all in order to get a single building erected. Why, he asked, should there not be some integration of the consents, some reduction in the number of authorities to be consulted? He made a plea that the RIBA should do something about it. Mr. W. A. Allen, chairman of the RIBA Science Committee, immediately said that the RIBA had, in fact, tried to do something. During 1955 the Institute had invited the various Ministries and other authorities at present responsible for, or concerned in the administration of the main building legislation to send representatives of their legal and technical departments to an informal meeting to discuss the subject with representatives of the Royal Institute, but this attempt to discuss the subject had failed due to apathy on the part of some of the Ministries.

Reference to the matter is, in fact, made in the report of the Science Committee contained in the RIBA annual report for the year 1954-1955, where it is stated that an inquiry had been initiated into the possibilities of improving the form, content and administration of legislation affecting buildings. This seems a worthy subject for inquiry—indeed, one which should be reviewed periodically and kept continuously under observation—and it seems unthinkable that Ministries should not be prepared even to meet for informal discussion. The Institute are to be congratulated for their initiative, but they must not let the matter drop. It may be that their aims were too comprehensive, and raised too many doubts in the minds of the bodies approached as to the possibility of reaching a practical solution to the many difficulties involved. If that be the case, then let them tackle again the point raised by Mr. Anderson —simplification in the administration of legislation affecting buildings. They would have the blessing of the whole industry in their task.

Notes of the Week

The Gold Medallist

ONLY the truly great are truly modest, someone has said. If that be so, then Professor Walter Gropius, to whom the Royal Gold Medal was presented at the RIBA on April 10, and for whom a dinner was given by the Architecture Club two days later, is among the elect. Not the least pleasing part of the ceremony of presentation of the Medal must, for the recipient, have been tributes paid by friends and colleagues which made it clear that the principles which have guided him as teacher and architect are clearly understood and appreciated. Dr. Pevsner put this well when he said: " He has never allowed the artist to break out of the wholesome discipline imposed by the organiser and the social reformer, and it is hardly necessary to say that he has never allowed the organiser or the social planner any inroads into his artistic integrity." That might be taken as a guiding light by any architect.

Deeply interesting were Dr. Gropius's own remarks on the functioning of his Architects' Collaborative, the work done by which must go far to convince those who feel that a work of architecture can only be an individual effort, and that design as it were " by committee " is doomed to mediocrity. This is a fascinating subject for discussion on which finality of opinion may never be reached. Probably the thing works when a group contains at least one man such as Gropius who is not only outstanding as a designer but (and this is much more rare) has the ability to communicate his inspiration; the danger lies when, in design, the blind attempt to lead the deaf.

We do not recall any occasion of a similar nature at the RIBA when the standard of thought and of speaking was so consistently high; this may not be the least of the many tributes which the new Royal Gold Medallist has received, for it indicates the extent to which his own thought and influence has spread in a country which, if it had not the wit in pre-war days to find a place for his services, has now at least made such recompense as lies within its power.

The AA Reception

THE ARCHITECTURAL ASSOCIATION'S annual reception, that happy annual occurrence when architects and their friends in other branches of the building industry can meet without formality under the eye of a genial president; was celebrated again at the AA headquarters in Bedford-square on Thursday evening last week, when the President, Mr. Bryan Westwood, and Mrs. Westwood, received nearly 800 members and guests.

As usual, there was abundant entertainment for all tastes, which could be enjoyed the more readily as there was not quite the usual crush, attributed to the " staggering " in the time of arrivals occasioned by the counter attraction earlier in the evening of the Architecture Club's dinner to Dr. Walter Gropius. Exhibitions included a series of photographs of Greenwich in the 1880's, which

vividly portrayed the Victorian urban scene; Indian paintings of the 18th and 19th centuries; "The Thames Sailing Barge"; and post-graduate work of the AA School by three former students in, respectively, Yugoslavia, Western Germany and Canada and the USA.

For their play, the Section AA Barnstormers presented, three times in all, "The Three Brothers," which was "especially written and directed for this occasion by John Smith, assisted by Anton Chekhov, Ibsen, Henry Byron, Mrs. Henry Wood, Karl Marx, Havelock Ellis and the late Mr. Shaw." There were also cabaret shows and, last but not least, dancing in the basement, gaily decorated in a seaside motif, to Lou Preager's band.

AA Drama

"THE THREE SISTERS," a drama by Anton Chekhov, was presented recently by the Section AA Theatre Group at the Twentieth Century Theatre, London. Although written for production at the Moscow Arts Theatre in 1900, this play lacks the sombreness so often characteristic of that period in the Czarist theatre. Of course, everything ended in tears (as in most Chekhov conceptions), but not until the audience had fully enjoyed a host of amusing characterisations skilfully presented by the cast. Of particular note was Patricia Bullivant, who gave an excellent portrayal of Masha Prozorov, the frustrated though warm-blooded wife of the schoolmaster Kulyghin (played by John Roebuck). Admirable performances were given by the rest of the cast, including John Cain (as the handsome Colonel), Janice Elliott, Patricia Cain, Robin Butterell and George Kassaboff. The scenery, designed to evoke a mood rather than to create a naturalistic illusion of real rooms, was more than successful; as was the unconventional interval music (although the moods evoked by the latter, one suspects, were not always those intended by the composer!) We look forward to seeing more of this dramatic group's work.

Chair of Planning, Sydney

IN MATTERS of planning, a country as old as Britain is bound to have its problems aggravated by the mistakes of earlier generations, but it comes as something of a surprise to learn that the newer members of the Commonwealth may suffer in the same way. At Sydney University, Australia, a chair of Town and Country Planning has now been established, states Australia House, as "part of an Australia-wide attempt to cope with the mistakes in planning made by early settlers more than 100 years ago." Many students have already enrolled in the faculty, and the newly-appointed Professor, Prof. D. Winston, believes the response will make for better-planned cities, towns and roads in the future.

Most Australian cities and towns "just grew" with no particular forethought or planning. One of the tragic results of this haphazard development was that many cities and towns grew in flood areas, and regularly every year or so floodwaters rolled through hundreds of homes, causing untold damage. Many of Australia's roads "just grew" on the tracks of old-time bullock trails, and they wind and twist in a manner incomprehensible to modern motorists. But modern town and country planning authorities in Australia, it is reported, intend to see that the mistakes of the past are not repeated.

The Design Centre

THE DUKE OF EDINBURGH is to open "The Design Centre for British Industries" at 28, Haymarket, SW1, on April 26. The Design Centre, organised by the Council of Industrial Design, will be a permanent national exhibition of well-designed durable consumer goods and, it is claimed, the first of its kind in the world. From April 27 onwards, this national showroom, with its constantly changing selection of well-designed things in current production in Britain, will be open on weekdays (including Saturdays) from 9.30 a.m. to 5.30 p.m. Admission will be free.

"I know what we'd do to some of them if they advertised themselves as architects!"

*** The Architects' Registration Council is considering the question of advertising by architects.

The exhibition will consist of a main display of goods in the following trades: furniture and furnishings, textiles, floor coverings, pottery, glass, cutlery and flatware, travel goods, lighting, cooking and heating equipment, radio and television sets, domestic appliances, hardware, office equipment, building fittings, wallpapers and street furniture. Everything in the main display will be selected for its high standard of design and manufacture, and this will be supported from time to time by special displays of topical interest.

100 Guineas Donation

A DONATION of 100 guineas has been sent by the Eastern Federation of Building Trades Employers to the Board of Building Education. The Eastern Federation hope to supplement this later from the results of an appeal which the president is making to all members.

Terminal Building, Edinburgh

A NEW TERMINAL BUILDING at Edinburgh (Turnhouse) Airport, was opened by the Minister of Transport and Civil Aviation on April 12, and provides for new accommodation for passengers and public, for airline and airport administration, and for Customs, health and immigration controls. With apron, car park and roads, the cost has been approximately £84,000. Designed by Mr. Robert Matthew, CBE, FRIBA, and built by Mr. Nathaniel Grieve, the consulting structural engineer for the building, was Mr. T. H. Haddow, AMICE, and the consulting heating & electrical engineers Ian Hunter & Partners.

Presentation of the Royal Gold Medal

DR. GROPIUS AT THE RIBA

An audience which packed the Henry Jarvis Hall at the Royal Institute of British Architects on April 10 saw the Royal Gold Medal for the Promotion of Architecture presented by the President, Mr. C. H. Aslin, CBE, to Dr. Walter Gropius. Dr. Gropius was escorted to the dais to receive the medal by two past-Royal Gold Medallists—Sir Percy Thomas and Sir Howard Robertson. Tributes were paid by a number of architects from which we take the following extracts:

SIR HERBERT READ, DSO, MC, LittD, MA: To-day we honour a man who has created the most significant symbol of our time and who has himself become a symbol. The symbol created by Dr. Gropius is the Bauhaus, a German word which he has made an international word. When, immediately after the first World War, Gropius was invited to become Director of the Academy of Fine Art in Weimar, he accepted the appointment but crossed out the word "Academy" and substituted this new word "Bauhaus." A "Bauer" is a builder, but a "Bauer" is also a peasant or farmer, and from the first conception of the Bauhaus there was present in the idea this organic connection between building and the soil, between man and the earth, between tillage and structure.

The Bauhaus was an idea, we say; but it was more than that. It was a new way of life, a new vision. Dr. Gropius did not base his teaching on any preconceived idea of form but sought the vital spark of life behind life's ever-changing forms. The Bauhaus was the first institution in the world to dare to embody this principle in a definite curriculum. What is there so revolutionary in such a principle? Simply this: that for centuries our schools and academies have based their teaching not on "life's ever-changing forms" but on a body of knowledge that we can call eclecticism, a system of rules and precepts derived from the rational analysis of the artefacts of the past, works and monuments that were alive centuries ago but that are now passionless and irrelevant. "For ever mobile and plastic"—that is the idea embodied in the Bauhaus and that is the idea embodied in the life work of Walter Gropius. He has destroyed for ever the old idea of a static dogma. He has destroyed for ever the old idea of separate arts pursuing their own discordant aims. He has destroyed for ever the unnatural divorce of art and society.

The Bauhaus idea, conceived 40 years ago, established by heroic strife and labour, at the cost of persecution and exile, is now the faith of every vital artist in the world. For this reason, if for no other, we honour Walter Gropius.

Sir W. Holford's Tribute

PROFESSOR SIR WILLIAM HOLFORD, MA, P-PTPI, FILA(F): It happened that long after I had become a student of Dr. Gropius's by adoption—as who did not in the late 1920's?—and long after hearing him speak at a dinner in London (I think it was in 1937), I became for three short periods after the last war a colleague of his in the Graduate School of Design at Harvard. In 1952 I had the honour of collaborating with him in a programme at Harvard, teaching his students and, as always happens in a good school, learning a good deal from them as well as from him.

I suppose there are really three qualities which a teacher of architecture must have if his influence is to penetrate and also to endure. Other qualities he may have in addition, but these are indispensable. The first is to have ideas and to be able to communicate them; the second is the ability to convince students that what they are doing is immensely important and exciting and worth-while; and the third is the kind of imagination that relates the part to the whole, that relates the detail of design to the broad composition and that relates the technical achievement to the vital movements of the time, or, as Sir Herbert Read has just called it, the organic unity of life.

Belief in Co-operation

These qualities are now and have been throughout his life the mark of Walter Gropius the teacher. Had it not been so, his students would long ago have found him out. For of all people the teacher has to be most completely proof against the battering, year after year, of new intelligences and new enthusiasms. It is something to have been a notable teacher, but it is something more to continue as a notable teacher and to be one still.

To stick to one's principles and yet continually to extend one's sympathies requires strength of mind and great humanity, and I think it is wonderfully assisted by a gift which Walter Gropius shares with a number of other great teachers, such as Bertrand Russell and Albert Schweitzer — an unquenchable belief in the virtues of co-operation. It is not fortuitous that Gropius's present architectural practice is known as TAC—The Architects' Collaborative.

It is usual on these occasions for the male bird to wear the plumage, but may I close my tribute by saying that he would not wear it to such advantage without the industrious, loyal and loving care of his wife. I say this because many of us here have enjoyed their joint hospitality and would like to extend our congratulations and good wishes to Ilse Gropius on this occasion.

DR. NIKOLAUS PEVSNER, CBE, PhD, MA, FSA, (Hon.A): I think it can safely be assumed now that it is an established fact that Walter Gropius is amongst the four or five pioneers of the architectural style of the twentieth century, but what perhaps is not so easily understood by the many young people whom I see in this room is the tremendous effort that must have gone into its creation.

In the house of architecture there are many mansions. Vitruvius was of the opinion, as you perhaps know, that an architect must be well versed in philosophy, in music, in medicine, in the law, in astrology and in several other things. Our list today may be a little different but it would be equally long. Perhaps it would be right to say that the perfect architect today must be an artist, the head of an organisation, and a human being of a burning social responsibility. Walter Gropius possesses all those three qualities, and in his life and his work they have continued to cross-fertilise each other. He has never allowed the artist to break out of the wholesome discipline imposed by the organiser and the social reformer, and it is hardly necessary to say that he has never allowed the organiser or the social planner any inroads into his artistic integrity.

DR. J. LESLIE MARTIN, MA, PhD, (F): If you think of Le Corbusier or if you think of Frank Lloyd Wright, you think of the very powerful and personal style of architecture which they have put into their work, but if you think of Dr. Gropius you see that his influence has been of a different kind. I believe that it has been an influence not on style but on method. His method, I believe, is important because it is a tremendously sustained effort to give the designer his place in all aspects of industrial production. The works of architecture and industrial design which he has created are tremendously important in themselves, but I do not believe it is important to Walter Gropius that he should have established a style. His influence is far more subtle. It is an influence of an infiltrating and multiplying kind, and it is not surprising to me that that influence has spread throughout the world.

A Practising Architect

MR. J. M. RICHARDS (A): I do not want to speak as though Dr. Gropius were simply a theorist. We admire his qualities as a teacher and a philosopher, but we should know that his strength in these rôles is due to the fact that he has always been a practising architect. His special quality as an architect, I think, is that he has always been intensely aware of the needs of the society for which he is planning, by which I mean the people who are to occupy his buildings, not society in some abstract sense.

Much of Gropius's work has been experimental, but not at his clients' expense. Dr. Gropius does not need to use his buildings to demonstrate a theory, since his theories themselves arise out of his understanding of the ways in which people use buildings and building resources at the present time and in the present circumstances.

MR. E. MAXWELL FRY, CBE (F): As a young man Gropius was granted an idea of what our life could be, so complete, so grand, so beautiful as to give him as much right as Jean Jacques Rousseau to make for the nearest housetop and blazon it abroad to the world,

The Royal Gold Medallist being congratulated by the President.

but Gropius had also a character so strong, a bearing so modest and a heart so loving that instead he gathered his friends about him and shared the idea with them. With this idea and with this group of friends he set to work and, with infinite patience and care, less for himself than for the idea, he planted it in fresh young soil. At Weimar it grew and flourished and, despite opposition and war and despite his own transplanting, it spread like the cedars of Lebanon until it covered the earth. There are none here who do not rest beneath its shade or eat of its fruit.

Dr. Gropius's Reply

DR. WALTER A. G. GROPIUS, Dr.Ing. (Honorary Corresponding Member, USA): Your generous words of friendship and appreciation have fallen on the ears of somebody who, for many years of his life, has had to make a stand alone and without the backing and encouragement which come naturally to a man who is identified with the specific national background into which he was born. But what I lost on the national plane was generously awarded to me on the international plane, and now that my English colleagues have pronounced their verdict and admitted my name to the distinguished roster in the hall of the RIBA building I feel more of a world citizen than ever.

After describing his experience as an architect in England and his move to Harvard University, USA, School of Architecture, Professor Gropius continued:

I had from the beginning [at Harvard] taken a strong stand against this separation [of teaching and of practical participation in architecture] and had accepted my appointment only under the condition that I could maintain simultaneously my own architectural office, an arrangement which has subsequently been widely accepted in the American Schools of Architecture. Therefore I welcomed it when some of my former students and their friends, having returned from the war, took me up on my own tenets with a proposition to set up a team of architects who would carry into practice a scheme of collaboration which I had long stressed and rehearsed at Harvard. This my team, The Architects' Collaborative, has now stood its test for over ten years. My strong inclination for team work has increased with time and to-day, I believe, we are well on our way again to reclaim the individual talent to work as *primus inter pares* in a group of collaborators.

In accordance with this experience, I later on abandoned the old boss-employee relationship in my architectural office in Germany, putting the emphasis on the group. To-day I go even further. I work with seven partners and five associates, and we emphasise the group name above those of the individuals.

I believe that this approach contains a true democratic spirit, for how can we establish a system of collective security among the nations unless we first develop attitudes and techniques of collaboration in our own set-up? This seems to me to be the *conditio sine qua non* before we can reach our cultural goal—unity in diversity.

In accepting this Medal I think of all those who have worked at my side towards this goal. Again I thank you for this great token of your esteem and for the uplifting words with which you have honoured me. I shall never forget this day.

A recorded interview with Dr. Gropius by Mr. J. M. Richards is to be broadcast on Saturday, May 5 in the BBC Third Programme.

COLOUR IN BUILDINGS

A Joint Paper at the RIBA

A PAPER on "Colour in Buildings" was given jointly by Messrs. H. L. Gloag, AADipl, ARIBA, and D. L. Medd, AADipl, ARIBA, at a meeting of the Royal Institute of British Architects, held at 66, Portland-place, W1, on Tuesday evening, April 17. The following are extracts from the authors' introduction to their lecture:

Looking back over the last ten years, architectural colouring is seen to be emerging as a subject in its own right. We claim that colour has an effect on the character of buildings out of all proportion to the scant attention which the subject has so far received. Dare we make a plea at this point that architectural colouring should take a recognised place in the syllabus of all schools of architecture as an integral part of design instead of a mere embellishment?

The concept of character and the contribution which colour itself makes to character is our main theme. By *character* we mean the collective effect of visual qualities, and we refer to it when we use such terms as "stimulating" or "depressing" to describe an interior. These terms and others like them express a reaction which, in the visual context, may be suggested primarily by lighting or by colouring or by form, although all three are always present. Vague as these terms are by themselves, we believe they are highly significant because they suggest positive aims in design of a more fundamental and enduring nature than period style.

From the concept of character we are led to consider what qualities distinguish one character from another and what is appropriate or inappropriate character for a particular case—should it, for example, be "highly stimulating" or "restrained"? Such a question can only be answered by a study of what people want to do in buildings, and the means by which buildings can be designed to give to their users the greatest pleasure, comfort and efficiency. From the general concept of character, therefore, we quickly come to particulars about human requirements and the means of meeting them in buildings. It is here that science and systematic studies come to our aid.

Although the colouring of buildings is as old as building itself, it is not until recent times that there has been a systematic study of the subject.

Referring to the publication of British Standards Specification 2660 : 1955 ("Colours for Building and Decorative Paints"), the authors continued: Because architects previously had very little hand in designing paint colour ranges for buildings, it is small wonder that their needs could be met only by ordering "special" colours which serve to reduce the efficiency of manufacturers and raise their costs. The new range is no panacea, and inevitably is a compromise between many conflicting interests, but it can be regarded as a first step in a tradition of colour range design that departs from haphazard to systematic selection and arrangements. It embodies design experience, and is not just one more range but a design instrument for colour work not previously available.

CORRESPONDENCE

Professional Fees

To the Editor of *The Builder*

SIR,—The architectural conflict, Official v. Private, is raised again for the third or fourth time in 12 months by the Canterbury incident, but so far no contestant has raised his standard for the third interested party—efficiency in the national interest.

The measure of efficiency in any trade or profession is the output per man (or woman) employed. Can there be any doubt that the privately-employed principal or assistant, whether he be architect, quantity surveyor or member of any other profession, turns out more work per year than his official counterpart?

The professions generally are, by every criterion, the province in which the private practitioners can shine for impartiality, for efficiency and it should also be, for economy. What then has "gone wrong" with architects and quantity surveyors? The answer is undoubtedly the scales of fees! In both professions a percentage is charged on the gross cost of a building project. No account is taken of type of work involved, or of the proportion of specialists' work included which may have reduced their work by half. The work involved in designing, or preparing bills of quantities for an alteration job of £10,000 value is probably more than that of carrying out the same services for a £200,000 new project, but the scale fee for the latter would be fifteen times that of the former. Is this fair to the employer?

Let the scales of fees be drastically reformed and the trend away from the private practitioner will be gradually reversed.

T. N. ROSE [ARICS.]

28a, Priestgate, Peterborough.

The Letchworth Dividend Limit

To the Editor of *The Builder*

SIR,—The abolition by First Garden City Limited of its dividend limit raises a matter of public interest, and the issues should be understood. It may well be thought to strike a mortal blow at the system of limited-profit land development by private enterprise as a useful alternative to large-scale commercial monopolies on the one hand or uniform public ownership on the other.

The New Towns (Reith) Committee, of which I was a member, hoped that some new towns might be built by authorised associations receiving government loans on condition that dividends on their equity capital were limited; and though this method has not so far been adopted in this country, it is one that I have always thought could be advantageously applied in the Dominions or in the USA when they really get down to the world-wide problem of metropolitan decongestion. The ownership of a whole town site places immense powers in the hands of the owning body, with the possibility of undue exploitation. The appropriate safeguard for the firms and persons settling in such a town is a limit on profits and a guarantee that surplus revenues and increments will be applied to public purposes. If, when the undertaking becomes a financial success, the limit can, without consultation with the town or any public authority, be abandoned, the whole conception of private enterprise on a limited-profit basis is undermined. The opinion of many people will shift in favour of the less elastic, but safer, system of public land ownership.

When the Letchworth company was started in 1903 one of its fundamental aims was to secure for the community the increments of land value arising from the creation of a town on rural land. By its memorandum of association it limited its dividends to five per cent. per annum (cumulative) and the right of shareholders on winding-up to the return of their capital plus 10 per cent. All surpluses were to be used "for the benefit of the town or its inhabitants."

Moreover, throughout the company's history it has advertised the dividend limit in its booklets and publicity as an advantage to firms and persons taking sites and building in the town. There is no questioning the intention or its repeated declaration. It was believed also to be safeguarded by the fact that under company law up to 1948 a company's memorandum could not be changed without the consent of the High Court.

In 1947 the Planning Act "socialised" all future increments of land value. Ostensibly to save as much as possible of the values from the State, the company in 1949 removed the limit of the stockholders' rights on winding-up, being able to do so, under the Companies Act of 1948, without the consent of the Court. It seems very odd that the shareholders, to save what had been promised to the town from being taken by the State, should have transferred it to themselves; but that is what they did. The defence offered by the chairman of the company is that there was no contract or legal trust; there was merely an intention that the town should benefit, and an intention could be changed, and therefore was changed. The Letchworth UDC made some protest at the time, but took no step to test the matter in the courts. They relied, they say, on the fact that the five per cent. dividend limit was retained in the company's memorandum, and that the company in general meeting had resolved that its undertaking should ultimately be offered to the local authority or some other public body on fair terms to be agreed.

Since then the company has gone on advertising the dividend limit and the prospective benefit to the town from balances of profit, and claiming to be a "trustee for the community." Having paid off all arrears of its cumulative dividend in 1946, and the full five per cent. since, it had placed to capital reserves by September, 1955, £394,369, and to revenue reserves, after depreciation, £147,263, a total of surplus profits of £541,632. And the total sum it has contributed to the town out of profits to date is £9,000.

By the Planning Act of 1934, the State has given up its claim to future increments of value. But owing to the change in the company's memorandum in 1949, these future increments go to the shareholders, not as originally intended to the town. Thus, as one of the financial papers put it, with a five per cent. limit of dividend the company became worth more to the shareholders dead than alive. The company became vulnerable to a "take-over" bid. Fearing this, and under the pressure of a group of shareholders with their eyes on the accumulated profits, the directors proposed a bonus issue doubling the ordinary share capital, and the entire removal of the dividend limit. The proposals were carried at meetings of the company on April 5, despite the protestations of the Letchworth UDC and the Town and Country Planning Association (themselves shareholders) that they change the fundamental structure of the company and are a breach of faith with the town and its inhabitants.

Much was made by some of the shareholders of the change in money values since the shares were subscribed. No one disputes that this is very hard luck, but every holder of pre-1914 securities with fixed interest rates is in the same case. The shareholders might well have asked the UDC to consent to some bonus issue as an act of grace, and there is reason to think that the UDC would have been sympathetic. But sufferers by inflation have no ethical right to compensate themselves by repudiating unilaterally a bargain they have made with other parties. Whether in this case they had a legal right to do so will, no doubt, be questioned. The contention of the directors is that all those promises in the prospectus, the memorandum, and business-getting publicity did not constitute a contract, because, they say, there was no consideration. They were merely statements of policy or intention, and as in the case of the limit on winding-up, the intention could be, and has been, just changed. This seems to give a strangely wide scope to "a trustee for the community."

The one bright thing in a lamentable affair is the conspicuous demonstration it gives of the essential financial soundness of the garden city or new town principle of planned town development under unified ownership "in the interest of the community." In this case the hopes that the community would benefit by the financial profitability of the system may have been dashed: the 1,300 shareholders will benefit instead of the 25,000 townspeople—unless the latter can find some way of establishing their claim.

In the course of the controversy the UDC and the TCPA urged that the directors of First Garden City should have reminded the shareholders of the obligations the company had incurred by its 53 years of advertising the dividend limit as an advantage to settlers in the town, and should have proposed a moderate bonus issue coupled with definite safeguards in the constitution for the interest of the town in future surplus profits and increments. That, if properly informed and led, the majority of shareholders would have agreed to such a proposal is almost certain. The directors of Hampstead Garden Suburb, a company of about the same date, got the support of its shareholders against "take-over" bidders a year or so ago for a scheme placing the control of changes in its constitution in the hands of a group of charitable trusts, one of which was the National Trust. A bonus issue of one share for each ten held was made to the shareholders, the dividend limit of five per cent. was retained, any surplus on winding-up must be devoted to public purposes, and it is now impossible for the shareholders to depart from these arrangements without the consent of the outside trusts.

F. J. OSBORN.

16, Guessens-road,
Welwyn Garden City.

Steel Bridge Exhibition

AN EXHIBITION called "Bridges Are Beautiful" will be held at the Building Centre, 26 Store-street, WC1, from May 3 to 20, to show the advance in aesthetic design of steel bridges. Sponsored by the American Institute of Steel Construction, it will consist of 40 panels of photographs and descriptive material of bridges constructed all over the United States.

Coventry Cathedral

WORK ON FOUNDATIONS

WORK was started on the foundations of the new Coventry Cathedral in March, 1955. The architects are Messrs. Basil Spence and Partners, and the consulting engineers, Messrs. Ove Arup and Partners; and the contractors Messrs. John Laing and Son, Ltd. Her Majesty The Queen laid the Foundation Stone of the new Cathedral on March 23 last.

The following is a description of the work at the time of the laying of the foundation stone :

Setting Out.—Based on the competition drawings, a grid was worked out graphically. The Nave in the competition drawings diminished in width towards the Chancel, but this made it necessary to find a grid which could taper towards the altar and a mathematical formula was then worked out to plot the grid. The centre line called the XX axis was plotted to run from south to north, and the YY axis to run from east to west at the north end of the crossing. The intersections of the grid along the centre line were then numbered from one to 40. The intersections along the YY axis were called A-L. A descending geometrical progression was then worked out along the centre line starting at point 16. This was based on the formula

$$\frac{a}{b} = \frac{b}{c} \text{ when } \frac{a}{b} = 1.0210.$$

Concerning point 16 on the centre line again, two lines were drawn at 45 degrees or parallel with the main grid lines which were called gamma and delta. When the grid was finally drawn, it showed the following results:

The lines A-L in the crossing up to the gamma and delta lines were straight and parallel and the grid was evenly spaced. In the two triangles formed by the gamma and delta lines A-L followed a curve. The grid lines were parallel but diminished in distance. In the area north of the gamma and delta lines, A-L were straight but not parallel and the grid lines diminished in distance. Each main square of the grid could be subdivided into 16 or 36 small squares and the intersecting points were used to set out the plan of the Cathedral, in fact all the walls, columns and vault, and even floor patterns were based on this grid. The dimensioning of the Cathedral was therefore much simplified as each point could be determined by co-ordinates and normal dimensioning was unnecessary.

Piling.—A 17-in. dia. pile with a load bearing capacity of 50 tons was chosen in preference to a raft foundation. 625 piles were bored within four months.

Pile Caps and Concrete Walls and Slabs.—All the concrete work was designed on the plastic method. It was not considered necessary to provide any expansion joints and all the concrete work is homogeneous. The concrete mix throughout was 1 : 2 : 4, all the aggregates being carefully graded, and grooves and p.v.c. strips introduced at the daywork joints. The use of the plastic method resulted in comparatively light floor slabs, the Nave slab, spanning up to 30 ft. in parts, being 10 in. thick. The 42 ft. by 42 ft. slab in the Assembly area is stiffened by two columns 1 ft. 4 in. by 1 ft. 4 in. placed 4 ft. from the centre. The thickness of this slab is 10 in. throughout without any beams or mushrooms above the columns and is reinforced in two directions.

Looking north showing the Chapel of Unity and the concrete Nave floor slab. Work is now proceeding in the Chapel of Unity area prior to the concreting of the concave floor.

Stone Walls.—In the undercroft, where the concrete walls have already been built the stone is now being applied secured to the concrete with bronze anchors but above Nave level the outer and inner stone walls will be built first and the mass of the wall will be filled in with concrete. The stone walls of the Nave are load bearing taking their own weight which is quite considerable as they are 80 ft. high and also supporting the roof. The mortar mix for the jointing will be one part cement and four parts crushed stone, but the infill will be 1 : 2 : 4 concrete.

Vault.—The 14 columns supporting the vault are star shaped in section, having an overall width of 2 ft. at the springing tapering to 1 ft. at the base. The springing of the vault is 63 ft. above Nave floor level. The barrel was based on a segment of 76 degrees which is constant throughout its length.

The infill of the vault is supported by a number of concrete fins following the grid lines. These are approximately 8 ft. wide and 4 ft. high over the columns tapering to 2 ft. 6 in. at the apex and tapering away towards the outside of the aisles. The prestressed concrete triangular facets of the vault, whether perforated or plain, will be prefabricated and it is expected that they will be only 1½ in. thick. These triangles will vary in size, but they average 12 ft. long at the base and 9 ft. high. These panels will be precision made as any inaccuracy in placing the prestressed cables outside the centre of the slab would cause buckling of the panels. The columns formed by spinning will also be prestressed and prefabricated and then transported to the site in one length. Much thought has been given to the method of erection in order to avoid the use of too much scaffolding, and it is felt that the most economical solution will be obtained by using a movable support in the middle of the Nave with two girders spanning from the central support to the stone walls. The prefabricated panels will be hoisted into their positions above these supports and the beams will then be cast on top.

Roof.—The crossing which is approximately 90 ft. by 90 ft. is covered with a shell construction of a thickness of 4 in. At the roof over the Nave concrete trusses will be placed at 35 ft. centres spanning approximately 90 ft. with a tie at low level, use being made of a 4 in. roof slab to form a T beam in the compression zone. The roof will be entirely supported on the stone walls, the star shaped columns in the Nave not taking any of this weight. A light-weight concrete insulation will be placed to a depth of 6 in. over the slab. It is expected that this material will be obtained from the precipitation of fly ash —a waste product from the coal burning power stations. A 1 in. thick layer of asbestos spray will be applied to the underside of the roof slab to absorb sound. The U value thus obtained will be .12.

The roof covering is copper and as this is an impervious skin, some interstitial condensation might occur but the insulation is so designed that the dew point will be outside the concrete slab. A solution to the problem of interstitial condensation has been found to be providing U-shaped copper standing seams, leaving an air channel immediately below the copper. These channels would be open to the fresh air providing good ventilation and allowing moisture in the slab to escape.

Chapel of Unity.—The Chapel of Unity will be built of loadbearing stone mullions, and the roof will be a 4 in. concrete shell exposed on the underside.

Guild Chapel.—The Guild Chapel will be constructed entirely in stone.

"THE BUILDER" COST OF BUILDING CHART

(Copyright: H. J. Venning, FRICS, and "The Builder")

WAGES

Wages of one craftsman and one labourer (London rates) separately and conjointly with an allowance for emoluments such as the guaranteed week, holidays with pay and allowances under the working rules.

Date	Craftsman Labourer	Conjointly	Pence	Percentage Allowance	Actual Cost in Pence	Index Figure
June, 1939	1/9 + 1/3⅜	3/0⅜	36.75	+ 5	38.59	100
December, 1939	1/9½ + 1/4½	3/1⅜	37.75	,,	39.64	102.7
January, 1940	1/10 + 1/4⅜	3/2⅜	38.75	,,	40.69	105.4
June, 1940	1/10½ + 1/5½	3/3⅜	39.75	,,	41.75	108.2
September, 1940	1/11 + 1/5⅜	3/4⅜	40.75	,,	42.78	110.8
February, 1941	1/11½ + 1/6½	3/5⅜	41.75	,,	43.84	113.6
June, 1941	2/0 + 1/6⅜	3/6⅜	42.75	,,	44.89	116.3
February, 1942	2/0½ + 1/7½	3/7⅜	43.75	,,	45.94	119.05
February, 1943	Holiday Stamp	3/7¾	43.75	+ 5¼	46.04	119.3
April, 1943	2/1⅛ + 1/8	3/9⅛	45.5	,,	47.89	124.1
November, 1944	2/2⅜ + 1/8⅜	3/11⅛	47.25	,,	49.73	128.8
February, 1945	2/2⅝ + 1/9⅛	3/11¾	47.75	,,	50.25	130.2
July, 1945	2/3⅛ + 1/10	4/1⅛	49.5	,,	52.09	135.0
October, 1945	Guaranteed Week	4/1⅛	49.5	+ 6¼	52.72	136.6
January 1, 1946	2/7½ + 2/1½	4/8⅜	56.75	,,	60.44	156.6
September 30, 1946	Increase H.I.	4/8⅜	56.75	6¾	60.58	157.0
February, 1947	Travelling	4/8⅜	56.75	7	60.72	157.3
September, 1947	Holiday Stamp	4/8⅜	56.75	7¼	60.86	157.7
November 16, 1947	2/10½ + 2/3¾	5/2¼	62.25	+ 7	66.61	172.6
July 5, 1948	Health Scheme	5/2¼	62.25	+10	68.48	177.4
July 11, 1948	2/11 + 2/4	5/3	63.0	,,	69.30	179.5
February 7, 1949	2/11½ + 2/4½	5/4	64.0	,,	70.4	182.4
October 3, 1949	2/11½ + 2/5	5/4½	64.5	,,	70.95	183.9
February 6, 1950	3/0 + 2/6	5/6	66.0	,,	72.6	188.1
July 3, 1950	3/0 + 2/6½	5/6½	66.5	,,	73.15	189.5
February 5, 1951	3/0½ + 2/7	5/7½	67.5	,,	74.25	192.4
March, 1951	3/3 + 2/9½	6/0½	72.5	,,	79.75	206.6
March 26, 1951	Holiday 3d.	6/0½	72.5	,,	79.75	206.6
April 2, 1951	Holiday 3d.	6/0½	72.5	,,	79.75	206.6
October 1, 1951	Increase Insurance	6/0½	72.5	,,	79.75	206.6
February 4, 1952	3/6 + 3/0½	6/6½	78.5	+10½	86.74	224.8
April 7 & 11, 1952	Holiday Stamp	—	78.5	10¾	86.9	225.3
October 6, 1952	Increase Insurance	—	78.5	11	87.13	225.8
February 2, 1953	3/8 + 3/2½	6/10½	82.5	10	90.75	235.2
April 6, 1953	Extra week's holiday	—	82.5	12	92.4	239.4
February 1, 1954	3/9 + 3/3½	7/0½	84.5	11½	94.43	244.7
May 24, 1954	3/10½ + 3/5	7/3½	87.5	11½	97.56	252.8
February 7, 1955	3/11 + 3/5½	7/4½	88.5	,,	98.67	255.7
April 18, 1955	4/1½ + 3/7	7/8½	92.5	11	102.67	266.0
	Holiday Stamps					
April 4 & 11, 1955	1/- & 6d.	—	92.5	12	103.6	268.5
June 6, 1955	Increase Insurance	—	92.5	12½	104.06	269.7
February 6, 1956	4/2½ + 3/8	7/10½	94.5	11½	105.6	273.6
April 16, 1956	4/5 + 3/10½	8/3½	99.5	11½	110.9	287.4

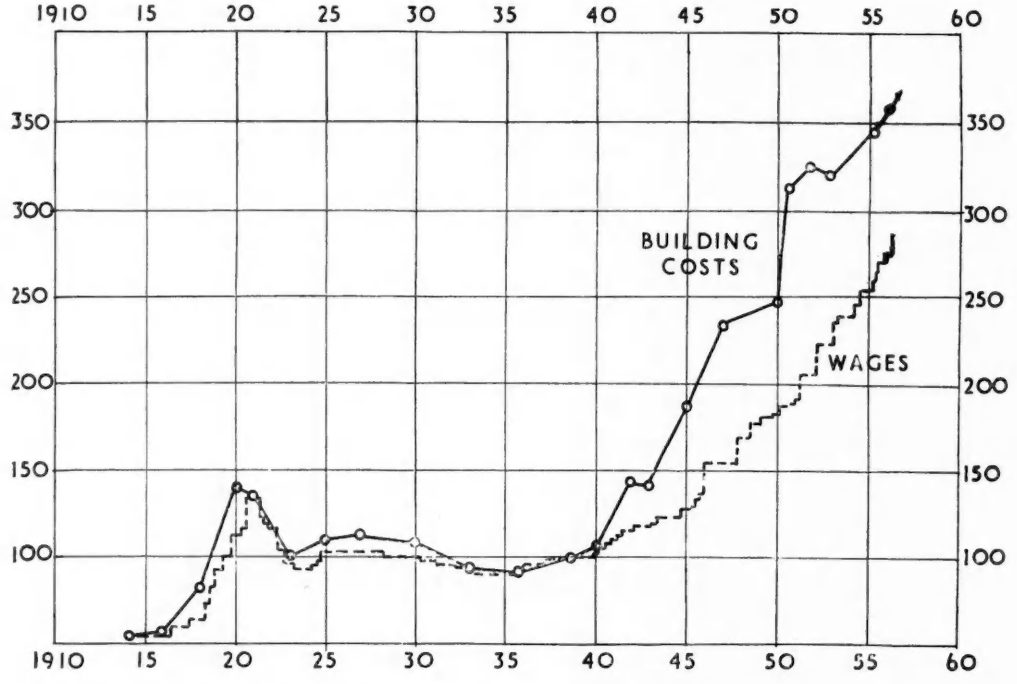
Variations from 1914 to Date

CHARTS on this and next page show (Chart A) the rise in wages, materials and building costs over the years 1939 to 1956, and (Chart B) the fluctuations in wages and building costs from 1914 to date. They have been compiled by Mr. H. J. Venning, FRICS.

At June, 1955, the Index stood at 346. At February 6, 1956, the Index stood at 356 and it is estimated that the latest wage increase on April 16 will bring the figure by next June up to 365—an increase over June, 1955, of about 5.5 per cent.

Materials have continued to rise steadily throughout the past twelve months and presumably only a marked improvement in output can bring a fall in the index. Actually, it has been estimated that output will increase as much during 1956 as it did during 1955.

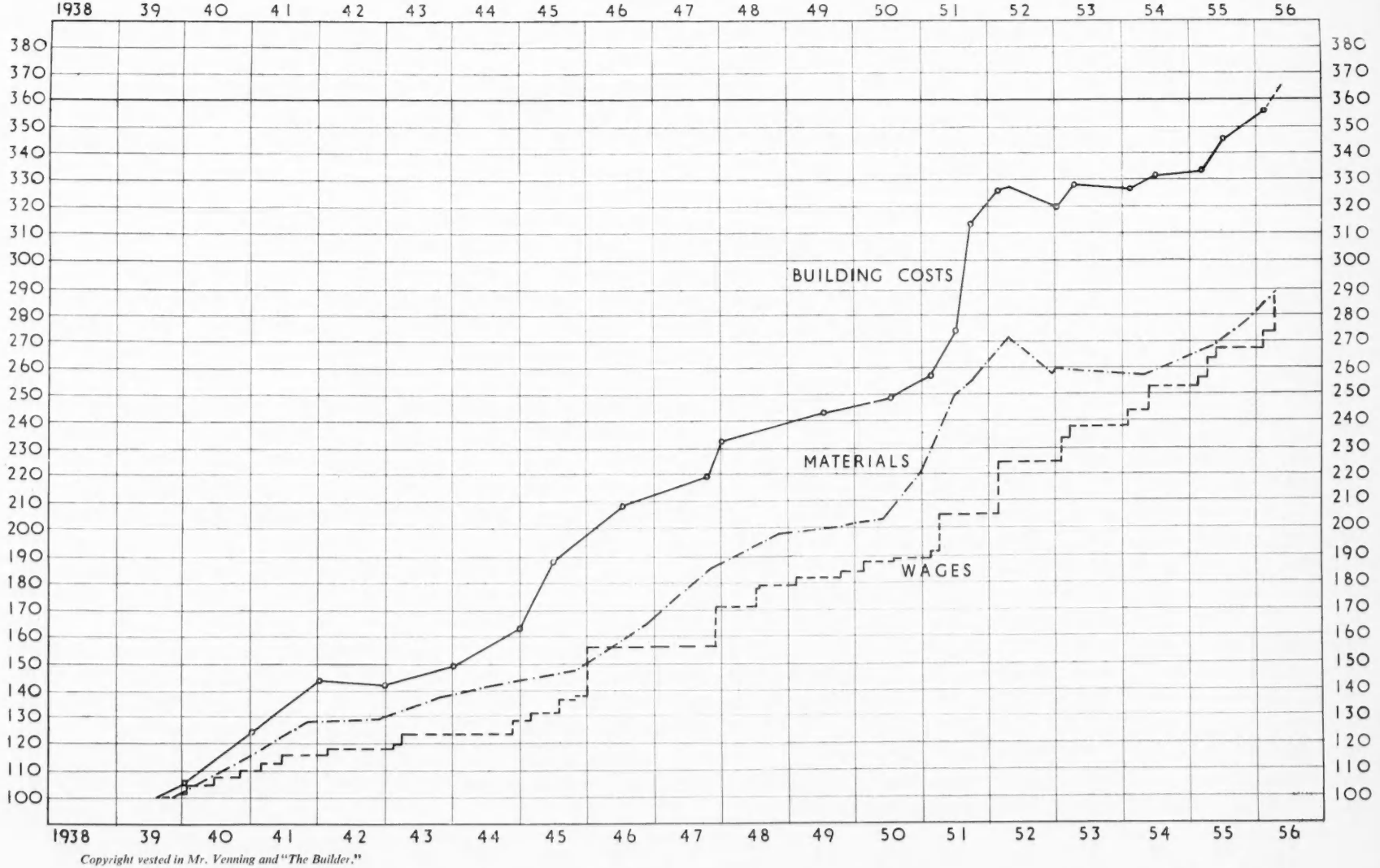
The line showing building costs is in each case based on actual tenders for the normal run of building contracts. The line for materials is based on the figures published by the Central Statistical Office. The line for wages is based on a conventional average of one labourer to one craftsman, and takes account of the indirect benefits as shown in the Table. The line does not include anything to do with incentive payments.



BUILDING COSTS, 1914-1956.—This Chart (B) shows the fluctuations in Wages and Cost of Building from 1914 to date.

1900 to April 1956 shown in Charts prepared by H. J. Venning, FRICS, Chartered Quantity Surveyor.

THE COST OF BUILDING.—Variations from 1939 to April, 1956, shown in Charts prepared by H. J. Venning, FRICS, Chartered Quantity Surveyor.



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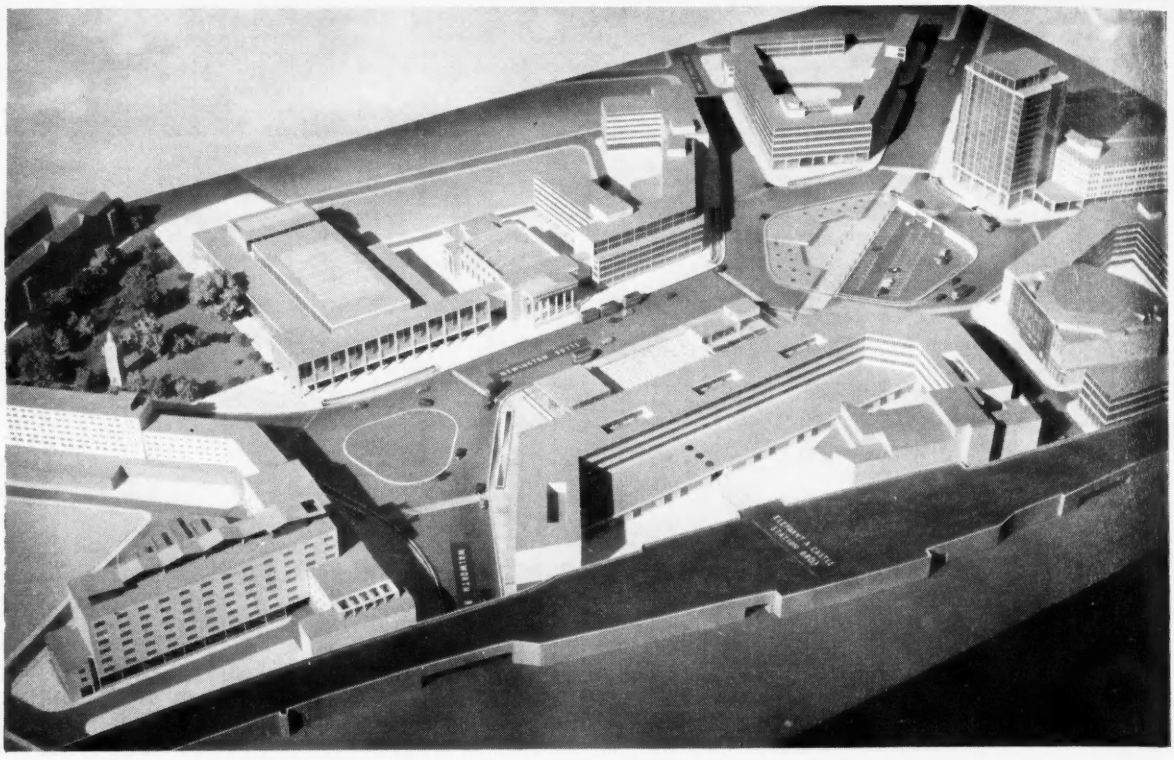
BUILDING COSTS, 1939-1956 (*Chart A*).—*Plotted above are the fluctuations in Wages, Materials and Building Costs over the years* 1939 (*Datum* 100) *to April*, 1956. *At June*, 1956, *the Index should stand at* 365 *as compared with* 346 *at June*, 1955. *On facing page will be found itemised the various wages and other increases since* 1939.



A model of the scheme, viewed from the east.

REDEVELOPMENT OF THE ELEPHANT & CASTLE, LONDON

APPROVAL has been given by the London County Council to a proposed scheme for the redevelopment and road improvement of the Elephant and Castle, London. The scheme, submitted by the LCC Town Planning Committee, is intended to make the civic design worthy of its position as the main south gateway to Central London, and is a spacious three-dimensional layout so that proper architectural co-ordination can be clearly established from the outset.

The new roads will be flanked by buildings of even height on the east, west and south, and by an imposing tall building which will be seen along the vista of Newington Butts. The Trocadero Cinema and the Elephant and Castle Cinema will form part of the permanent development, and the Metropolitan Tabernacle is to be rebuilt with a capacity for 2,300 persons. The new development will comprise shops, offices and commercial and public buildings, and some residential accommodation has been suggested above the shops on the Draper-street frontage and between St. George's-road and London-road.

The main shopping centre will be on the east side of Newington Butts between the two roundabouts. A central concourse for shoppers and pedestrians will be provided by setting back the frontage of the new shopping parade, and the Northern Line station is to occupy a prominent position here. The island site of this roundabout will be converted into an open sunken area at basement level in order to provide a wide pedestrian link between the two shopping centres and the Underground station, as well as car-parking facilities for about 100 cars.

The road improvements will cost about £515,000, and the general scheme is to be a joint enterprise between private and public developers. It was prepared under the direction of Dr. J. L. Martin, MA, FRIBA, Architect to the LCC; Mr. J. Rawlinson, CBE, MICE, Chief Engineer and County Surveyor; and Mr. J. E. J. Toole, FRICS, Valuer to the LCC.

View of the nave, with its painted ceiling.

ST. NICHOLAS AND ALL HALLOWS,

East India Dock Road, Poplar, E14

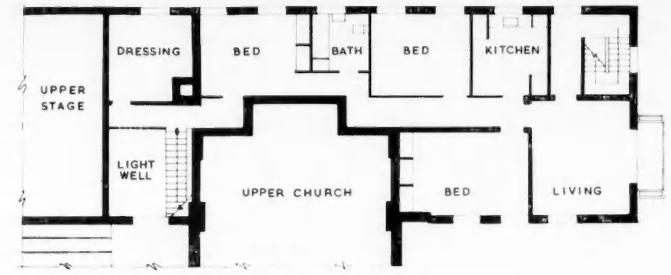
SEELY & PAGET, Architects

LANGDON & EVERY, Quantity Surveyors

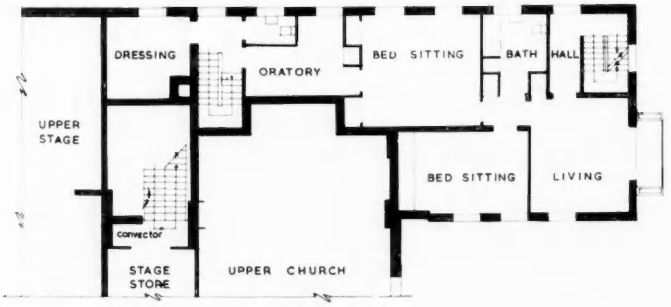
E. J. COOK & CO., LTD., Consulting Engineers

JAMES LONGLEY & CO., LTD., Builders

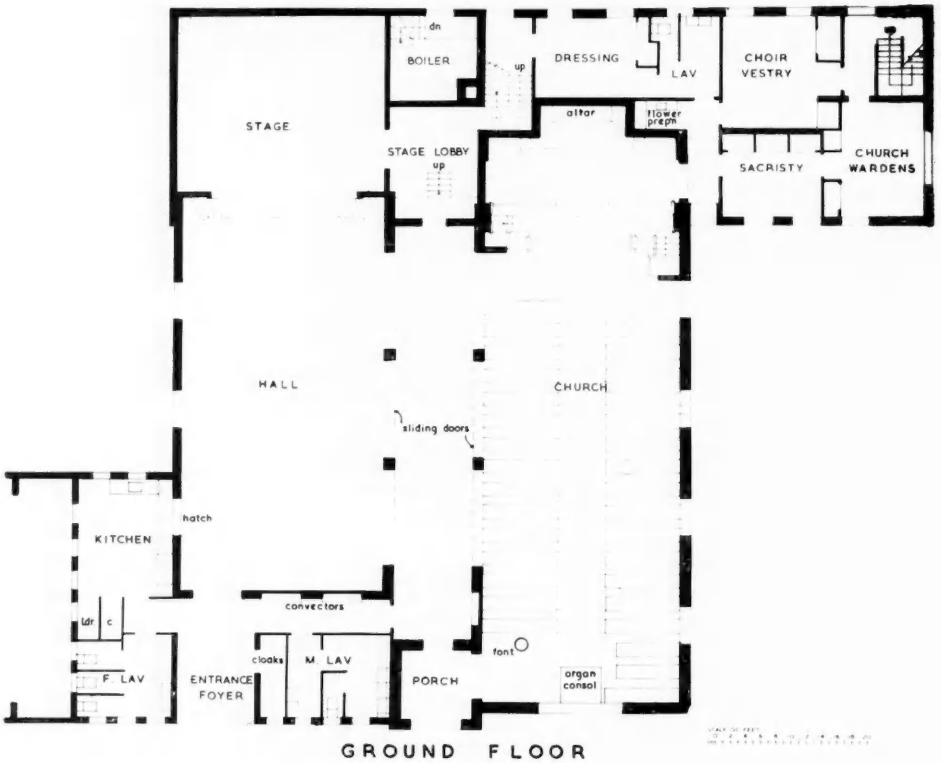
The Centre has been planned so that the hall runs alongside the dedicated church. The corridor running between the secular and ecclesiastical sections is fitted with sliding doors throughout its length so that it can be used to increase the capacity of either. The two upper floors contain flats for a married caretaker and the clergy.



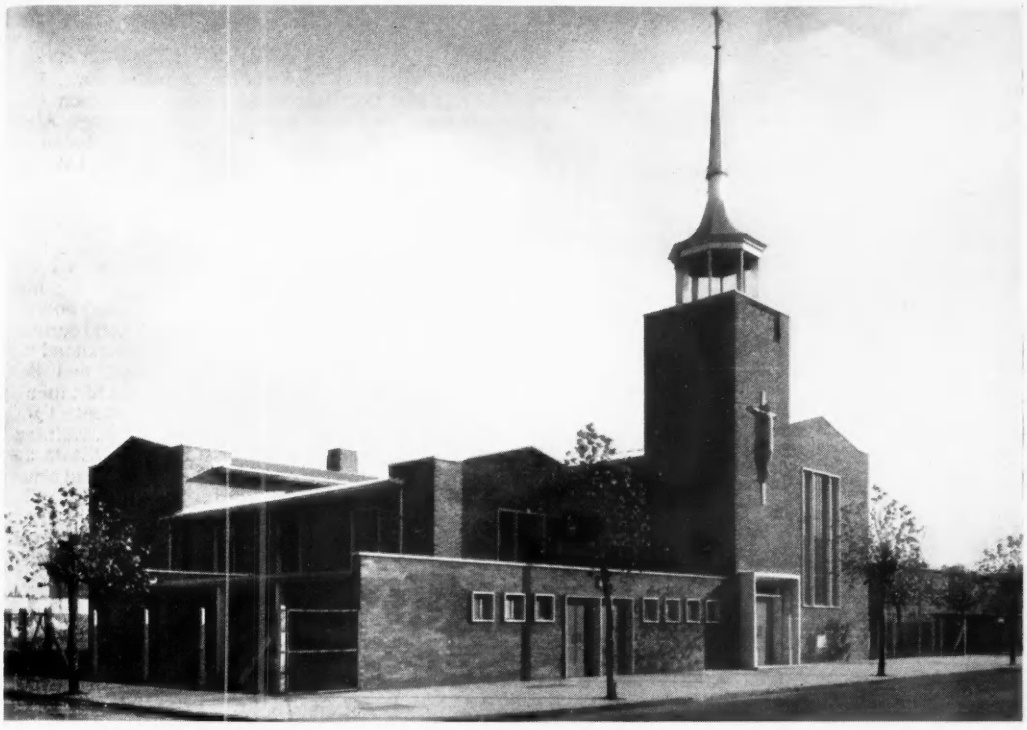
SECOND FLOOR



FIRST FLOOR



GROUND FLOOR



The main façade, fronting Aberfeldy-street.

THIS group of buildings comprising a church community centre was designed by Lord Mottistone, FSA, FRIBA, of Messrs. Seely and Paget, architects, and stands on what is virtually an island site fronting Aberfeldy-street, in the centre of a new LCC residential neighbourhood. On the opposite side of the street is a children's playground serving a large school in the near vicinity. The buildings replace those of All Hallows and St. Nicholas Poplar (which were destroyed by enemy action), and are intended to provide for various of the needs of the immediate community who will continue to look to All Saints, Poplar, as their parish church. The plan, therefore, contains a hall (fully equipped for all social purposes, including stage, dressing-rooms, kitchen and cloakrooms) and a dedicated church to accommodate a congregation of 190.

An interesting feature of this arrangement is that the spacious corridor which runs between the secular and ecclesiastical parts of the building is furnished throughout its length with sliding doors on both sides so that it can be combined at will with the church or the hall to increase the capacity of either. On great occasions, furthermore, the whole of the available floor space of church and hall can be thrown together into one when the sliding doors on both sides of the central corridor are fully open.

Painted Ceiling

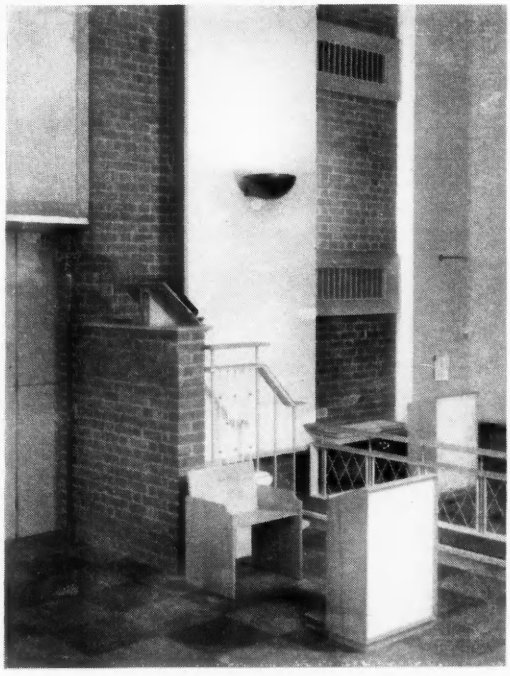
The decoration of the church owes much to the painted panels with which the nave ceiling is enriched. These are the work of Mr. B. D. L. Thomas, who designed them for the 1948 Conference at Lambeth Palace where they afforded a temporary ceiling to the Grand Drawing Room (then only partially restored of its war damage). When the permanent repairs were subsequently completed, the Archbishop of Canterbury and the Church Commissioners offered the panels for use in a new church building, and the nave of All Hallows, Poplar, was accordingly designed to take advantage of them. The subject of the painting represents the theme of the Lambeth Conference—God in His World and in His Church—and its treatment is very appropriate to this building which, like Lambeth Palace itself, has overcome the ravages of war. Even more significant in this sense is the hanging crucifix of which the figure was salvaged from the ruins of the Church of St. Nicholas.

Aluminium Roofs

Behind the usual church offices, a staircase gives access to two upper floors on which are provided residential accommodation for a married caretaker, and a flat for clergy ; these two habitations are linked by a communicating lift to facilitate the service of meals if the caretaker is also housekeeping for the establishment.

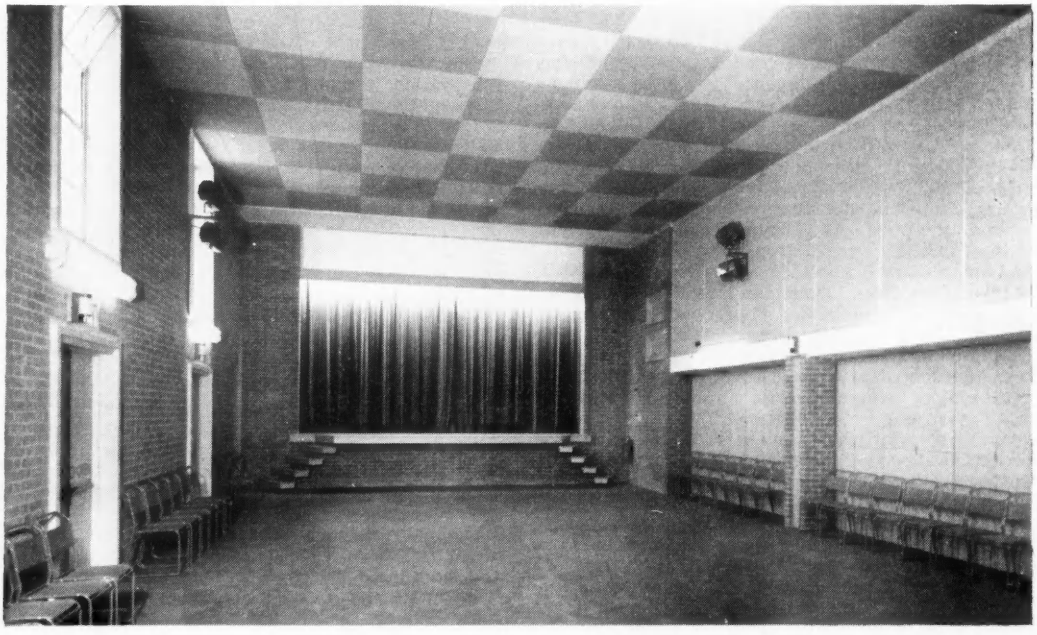
Externally, the buildings are faced with buff coloured bricks and roofed with aluminium, a metal which has also been used (believed for the first time in this country) for the spire surmounting the tower at the entrance to the church. Upon the western face of this tower, overlooking the children's playground, are a crucifix and figures of St. Nicholas, and Bishop Azariah of Dornakal, the first Anglican Indian Bishop to be consecrated. All these stone carvings are the work of the sculptor, Mr. Michael Groser.

The church was dedicated by the Bishop of Stepney on October 22, 1955, and the buildings opened by Princess Margaret on the same day.



Sub-contractors were : Fibrous plasterwork, J. B. Abbott and Co.; suspended ceilings, Anderson Construction Co., Ltd. ; specialist lighting fittings, Allom Brothers, Ltd. ; construction of steeple, A. Arden and Co., Ltd. ; electrical installation, Bective Electrical Co., Ltd. ; roof covering and steeple, British Aluminium Co., Ltd., Builders Iron and Zincwork Ltd. ; heating installation, Charrington Gardner Locket (London), Ltd.; lightning conductor, R. C. Cutting and Co., Ltd.; glazing, Faulkner, Greene and Co., Ltd. ; fire equipment, Fire Equipment, Ltd.; ironmongery, W. N. Froy and Sons, Ltd.; wood flooring, Granwood Flooring Co.; stage equipment and curtains, Hall and Dixon, Ltd.; sanitary fittings, Hammond and Hussey, Ltd.; paints, Thomas Hubbuck and Son, Ltd.; hand-operated lift, George Johnson, Ltd.; tubular steel chairs, Kingfisher, Ltd. ; pavement lights, Lenscrete, Ltd. ; artificial stonework, Marriott and Price, Ltd.; church bell and accessories, Mears and Stainbank ; communion rail, pulpit, lectern and candle brackets, Potter Rax, Ltd. ; Semastic decorative tiles, Semtex, Ltd.; altar frontal, Warham Guild, Ltd.; corded carpet, Waring and Gillow, Ltd.; metal windows, C. E. Welstead, Ltd.; hassocks and aumbry safe, J. Wippell and Co., Ltd.

Detail view of the lectern and clergy seat.



The community hall and stage.

ST. NICHOLAS AND ALL HALLOWS, POPLAR, E14

General view of the south block.

FLATS AT BLURTON FARM ESTATE, STOKE-ON-TRENT

J. R. PIGGOTT, TD, FRIBA, Stoke-on-Trent City Architect

Senior Assistant Housing Architect
W. G. OWEN, ARIBA

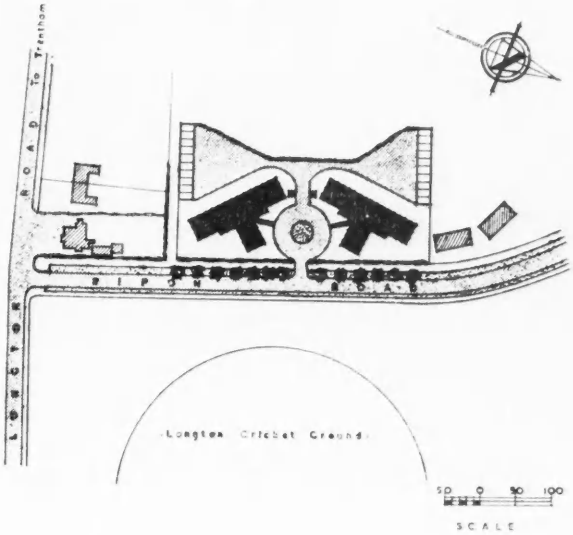
Chief Quantity Surveyor
H. J. DANIELS, ARICS

Assistant Quantity Surveyor
G. ADDISON, ARICS

Builders
TIDESWELL BROS., LTD.

Clerk of Works
A. MARTIN

Assistant Architect
E. A. MOUNTFORD, ARIBA

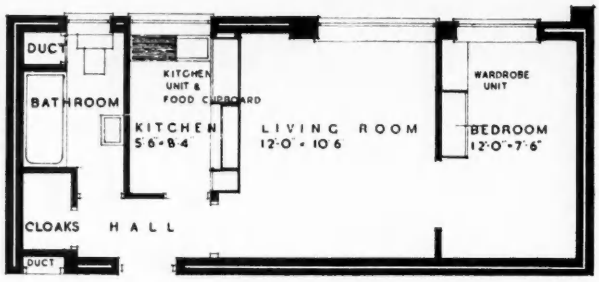


THE progress made by Stoke-on-Trent City Council in the provision of dwellings to meet family needs has now enabled the Council to include in its schemes provision for other specialised needs, such as accommodation suited to the requirements of single professional and semi-professional men and women who are out all day and who prefer to have their own living unit rather than live in lodgings or hostels. To meet this need, these two blocks of three-storey flats (containing 30 flats in each block) have been erected on a site fronting Ripon-road on the Blurton Farm Estate.

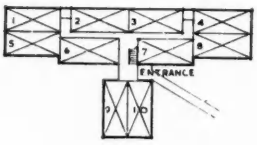
The erection of the flats was commenced on October 20, 1954, the foundation stones being laid on November 8, 1954, by the then Lord Mayor (Alderman Mrs. A. L. Barker, JP), and Mr. M. F. B. Bell, Assistant Secretary, Ministry of Housing and Local Government. The Housing Committee has named the blocks " Barker House " and " Bell House " to commemorate this occasion. The flats were officially opened on November 11, 1955.

The main problem was how best to provide the necessary accommodation on the limited amount of land available. Bearing in mind the fact that it takes almost the same amount of land to house a one- or two-person family in a bungalow as to provide a house for a man, wife and four children, it was decided that special provision should be made in the flats for a proportion of the small family units.

The 60 dwellings have been provided on an area of 1.4 acres. The mining report was



·TYPE A/1·
PLAN OF ONE DWELLING
FLOOR AREA 356 SQ.FT



FLOOR PLAN OF DWELLINGS

such that three-storey construction only was permissible, but it was thought that the same plan would work in with multi-storey development, incorporating lifts. Some 22 brick-built garages are being provided, access to which is by a road which leads from the private circular carriageway and runs between the two blocks of flats.

The dwellings are self-contained, comprising a small entrance hall with coat and hat cupboard ; bathroom with wc; kitchenette; a living area of 131 sq. ft., and a sleeping area of 90 sq. ft. These last two areas are separated by a built-in wardrobe and dressing table unit, the total floor area of each dwelling being 356 sq. ft.

Construction is traditional, being 11-in. cavity construction for the outer and internal surrounding walls to each flat. Floors are of precast reinforced hollow concrete beams, each beam having a $4\frac{1}{2}$-in. bearing leaving the cavity clear from ground floor to roof to ensure better insulation. The elevations are carried out in facing bricks, the fenestration being varied by cement-rendered colour-washed panels and by the provision of flower boxes at window cill level. The roof is covered by interlocking tiles of local manufacture.

The public services, electricity and water, are brought into the building at ground-floor level and distributed in ducts, each flat being independently controlled so that any difficulties can be dealt with without cutting off supplies to the remainder of the flats. Sanitation is by the one-pipe system in accessible ducts within the building, to eliminate frost damage. Lighting, heating, cooking and hot-water supply are all provided by electricity, and plugs have been installed in each floor for wireless and television. Electric floor heating is installed in " Barker House " in the concrete screed of the floors ; this screed being heated by electrical elements at " off-load " periods. The heat is retained for a considerable period of time after the electric current has been automatically switched off.

The contract price for the erection of the 60 flats was £55,432.

Sub-contractors were :

Precast concrete floors, Concrete, Ltd. ; covered units, Kingston (Architectural Craftsmen), Ltd. ; electrical installation, City Electrical Installations, Ltd. ; underfloor heating, Panelec (GB), Ltd. ; terrazzo, Louis de Cecco, Ltd. ; wrought iron railings, J. W. Handley ; hardwood hand rails, Norman Hancock, Ltd. ; thermoplastic floors, Limmer and Trinidad Lake Asphalt Co., Ltd. ; ventilators and fans, Casburt, Ltd. ; water heaters, Simplex Electric Co., Ltd. ; fire extinguishers, John Morris (Fire Snow), Ltd. ; sand-faced facing bricks, T. E. Walley, Ltd. ; interlocking roof tiles, G. H. Downing, Ltd. ; paint, Hadfields, Ltd.

Interior of the living-room, the lower view showing the bedroom beyond.

FLATS AT BLURTON FARM ESTATE, STOKE-ON-TRENT

Perspective view of winning design.

COMPETITION FOR OLD PEOPLE'S HOMES

Clients : Architects' Benevolent Society Homes Trust

Assessors : H. S. Goodhart-Rendel, A. W. Kenyon and G. Grenfell Baines

Winners : Clifford Culpin and Partner

THE ABS Homes Trust announced on Tuesday the award of the assessors, Mr. H. S. Goodhart - Rendel, CBE, FRIBA; Mr. A. W. Kenyon, CBE, FRIBA, MTPI ; and Mr. G. Grenfell Baines, ARIBA, AMTPI; in the competition for 20 old people's dwellings, warden's house and meeting room unit at Frenchman's Copse, East Horsley, Surrey:

First (premium, £100): No. 22—Clifford Culpin and Partner, 39, Doughty - street, WC1.

Second (£75 divided equally) : No. 32—Douglas Lanham, ARIBA, and Eric Barber, ARIBA, 27, The Greenway, Uxbridge, Middlesex; and No. 8—Robert Davison, ARIBA, and Andrew Artur, 5, Hetley House, Hetley-road, W 12.

The following designs are commended : No. 15—Miss P. F. G. Cavanagh, ARIBA, 52, Shornecliffe-road, Folkestone, Kent, and S. D. Dray, ARIBA, 25, Glover-road, Willesborough, Ashford, Kent ; and No. 30—Michael Hennings, ARIBA, 62, The Knoll, Beckenham, Kent.

The assessors make the following comments: We would like to congratulate the Building Committee on the high standard of these designs and of some of the others submitted.

The 94 designs submitted in the competition are now on view at the Building Centre, Store-street, Tottenham Court-road, WC1, until Thursday, April 26,

The Winners' Report

Following are extracts from the winners' report :

A. Principles Governing the Design

The main principles which have governed our arrangement of the various elements and determined the form and relationship of the buildings are :

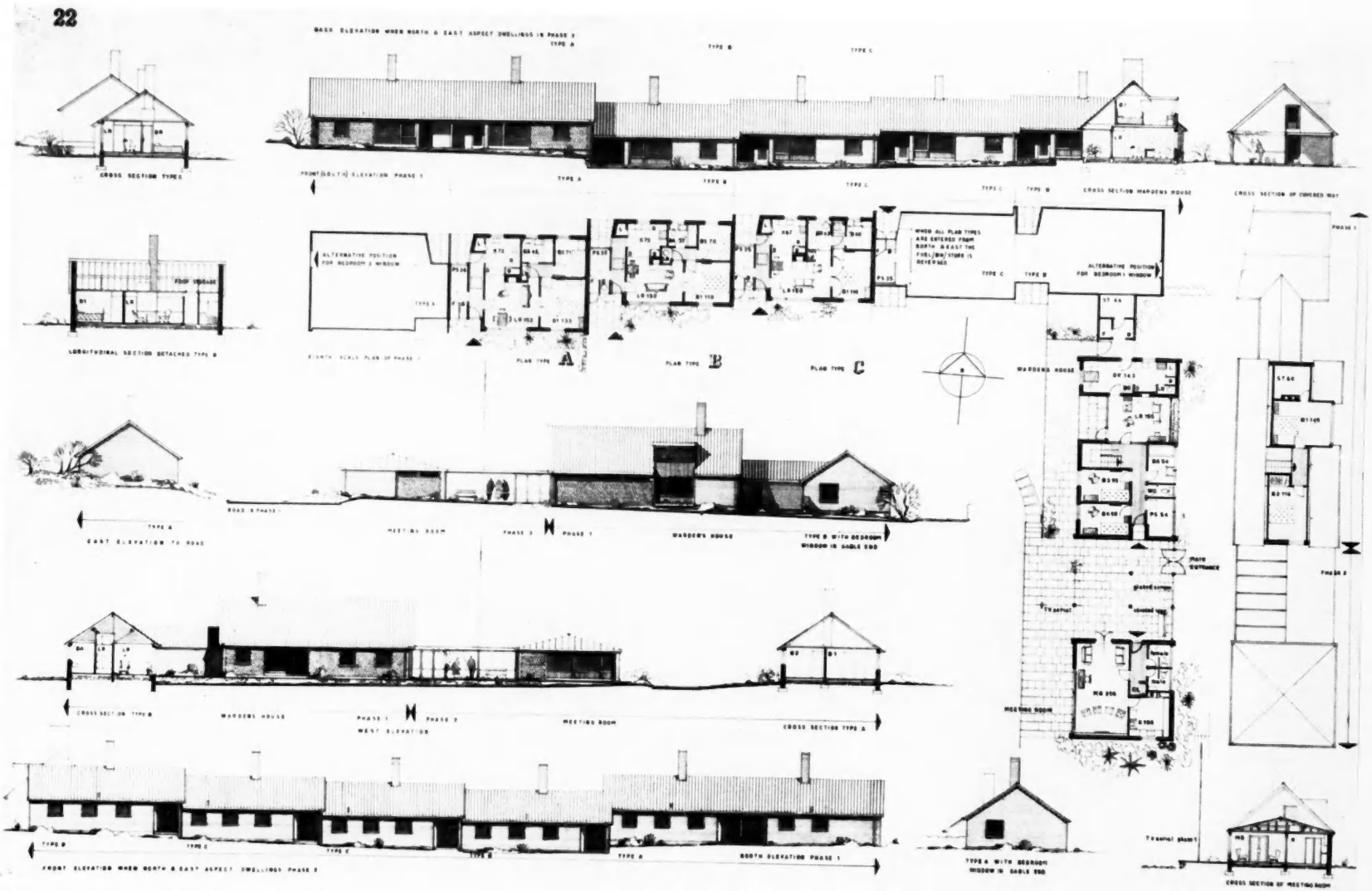
1. Emphasis of the existing beauty of the site rather than an attempt to create new interest.
2. Provision for every dwelling of a pleasant prospect from the main rooms as well as satisfactory orientation. Some must have close neighbours and others the slight seclusion indicated. The latter have been sited in phase two.
3. The linked social room/warden's house unit must be readily visible from the road as well as from most of the site. The social room must enjoy the south-west sun and enjoy to the maximum, both from its large window, and the terrace outside, the fine view of the rich belt of mixed trees, with dark coniferous foliage contrasting with the more tender green of deciduous trees.
4. The layout must be fully three-dimensional, and the buildings must fit the site as snugly yet as elegantly as a well-tailored garment fits the figure. This conformity with the site will produce economy as well as comeliness.
5. The whole group must form one architectural entity with no competition between the first and second stages; but, bearing in mind that, regrettably, some appreciable period of time may elapse before the second phase can be built, phase one itself must form an entity, and, both visually and from the practical viewpoint, be satisfactorily complete in itself. Compactness of the first stage is essential for economy.
6. It must be possible to build phase two with the minimum of disturbance to the old people settled into the first phase dwellings.

B. Form of the Buildings

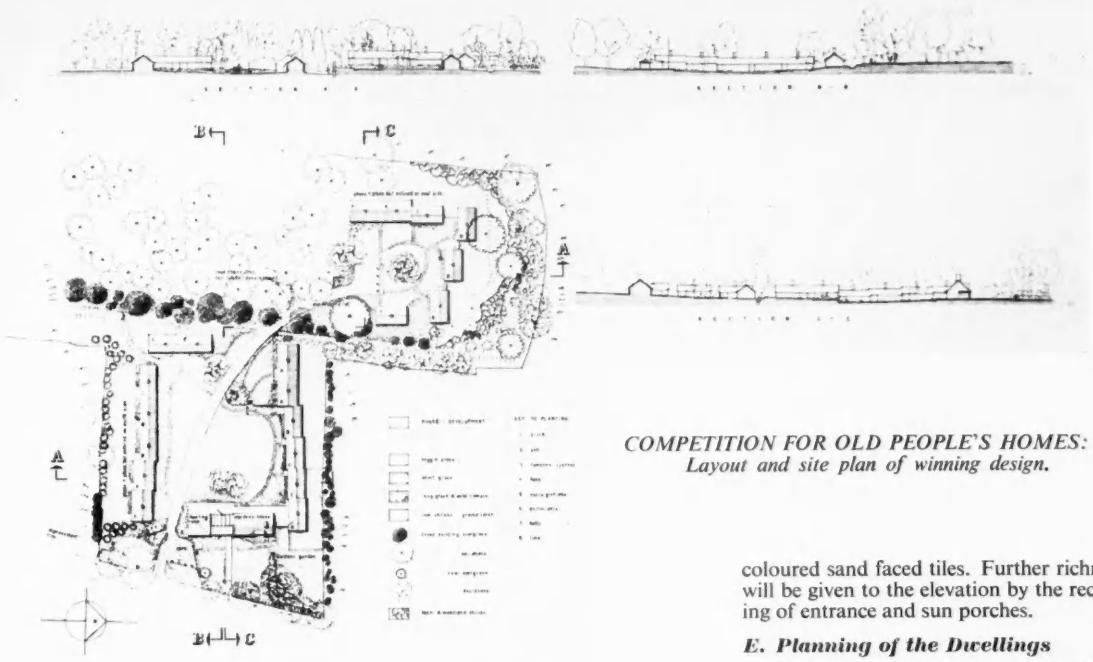
(i) *Old People's Dwellings* : Old people's small dwellings of the stipulated accommodation are more comfortable and convenient, and aesthetically more satisfactory, arranged on one floor. This is a slightly more expensive arrangement than two floors (though to a less degree than with larger dwellings) but our figures (estimates of cost) prove that our one-storey dwellings can be built within the cost limits laid down.

(ii) *Warden's House:* The warden's house, by being a practically detached unit, will dominate over the other dwellings; but were it in addition made two-storey against the one-storey dwellings it would, in our opinion, be given too strong an emphasis. We have, therefore, made it a " storey-and-a-half," with bedrooms in the roof space, so making its emphasis more subtle.

(iii) *Meeting and Social Room:* Although the conditions—by putting the meeting and social room as the " second stage " under the heading " warden "—indicate a preference for this unit being placed in the same building as the warden's house, we feel, (*a*) that the disadvantage of leaving, in phase one, an incomplete building and



Plans, elevations and sections of winning design.



COMPETITION FOR OLD PEOPLE'S HOMES:
Layout and site plan of winning design.

returning later to bond into brickwork, marry up roofs, etc., should be avoided; and (*b*) the square plan shape we have adopted, capped by a shallow pyramidal roof, gives a subtle, yet positive emphasis to this focal point of social activity.

The mast carrying the common television aerial provides additional emphasis to the area devoted to communal use.

C. Site Treatment and Landscaping

We have paid three visits to the site and have tried to absorb the " feeling " of the site and appreciate fully its natural attractions. As a result we have been convinced that (as already indicated) we must emphasise and enhance the existing beauty rather than create something that would compete with it.

Two fine views exist, that looking towards the west sun with the fine belt of trees in silhouette against it; and the view from the northern corner of the site through the really charming natural glade towards the south. The first view we overlook from our terrace and meeting room. The second from the group of more isolated dwellings which include four fully detached.

When the leaves had fallen from the deciduous shrubs, and the crop of peasticks had been gathered from the hazel bushes, a pink rash of new development was only too visible to the north. We have, therefore, left part of the existing hazel plantation as a screen and supplemented it with additional hazel bushes, ash trees and wild flowers. This area would be open to the bottoms of the gardens of the adjacent dwellings.

The relatively small amount of other new planting we propose would consist of both deciduous and coniferous material as indicated in the key on our site plan. The trees in the main central area would be silver birches which would not obstruct light and air, but which would light up delightfully in the sunshine against the shadowed background of the main tree-belt. Birches are again introduced in the centre of the northern group of dwellings.

Provision has been made for a connection from the new road, to serve the future development in area B on both its sides. In view of the probability of some long delay before road widening is done and the front boundary has to be set back, the landscaping is extended to the present road line.

D. External Appearance

We have designed dwellings " simple in character "—as stipulated—where the only " breaks " are those deriving from change of floor level or of wall line in plan. The rhythmic repetition of extremely simple elements will produce a tranquil, harmonious result and the traditional materials selected will, in the words of the Conditions " not go shabby quickly but rather improve with age."

The cost factor has determined, without choice, the adoption of a 35 deg. roof-pitch for all the dwellings (except the warden's house which is 42 deg.) and the roofs will be covered with dun-coloured pantiles. These tiles, unlike " interlocking " tiles, look well at the close quarters of single-storey buildings. Bold, simple stacks will rise from the ridges. The walling will be mainly of Surrey multi-coloured bricks with flush mortar joints and dead white woodwork. Tile-hung portions will provide a rich, yet harmonious contrast of colour and texture with club-headed deep red-coloured sand faced tiles. Further richness will be given to the elevation by the recessing of entrance and sun porches.

E. Planning of the Dwellings

The key to the planning of the three types of dwelling is (i) the reversibility, to suit orientation, of each type. The main plan remains as drawn in relation to the sun but the store unit reverses for aspect ; (ii) harmony between, and similarity of the three types. The plans are, we think, self-explanatory and we would comment only upon the following points:

In each dwelling the space over the dresser unit can be opened to let sunshine through into the working kitchen, or closed for snugness.

In type " B," where the bedroom area of 180 sq. ft. is to be divided at the competitor's discretion, we have decided upon two rooms with areas of 110 and 70 f.s., respectively.

Floor to ceiling heights are throughout, 7 ft. 6 in.

In the warden's house bedroom floor areas are in excess of those laid down, but this is balanced by the fact that part of the area has sloping ceilings.

In excess of programme requirements we have provided a garden-tool store to obviate some offensive small shed being erected at a later date.

Ground-floor stores of the old people's dwellings have been reduced to 35 f.s., and additional storage space is provided in the roofs.

The approximate estimate, April, 1956, for the building work is £40,735—making, with site works, a total of £45,835.

Mr. Culpin states that in the competition he had the assistance of Mr. Tony Sargeant, ARIBA (who also drew the perspective), and Mr. Brian Robson, BArch, ARIBA, who was responsible for the landscaping. At each stage of the design, Mr. Culpin had the guidance of Messrs. Donald Harwin and Partner, chartered quantity surveyors.

News of the Week

RIBA Appointment Open

THE RIBA invites applications for the appointment of Secretary for Professional Relations, to initiate and conduct research into the organisation, function and employment of architects. Applicants for the appointment will be required to show that they are experienced in similar undertakings, and that they have general administrative ability, practical knowledge of statistics and analysis of factual information, and competence to summarise and present the results obtained for the guidance of the RIBA Council and Committees. Starting salary £2,000 (may be higher if qualifications are exceptional) rising by annual increments of £100 to £2,500 p.a. Further information and application form may be obtained on request from the Secretary, RIBA, 66, Portland-place, London, W1. Closing date May 12.

Cheaper House Purchase

MR. HAROLD MACMILLAN, Chancellor of the Exchequer, announced in his Budget Speech on Tuesday that he proposed, as from August 1 next, to reduce the rates of stamp duty on conveyances of house property to 10s. per cent. where the consideration exceeds £500 but does not exceed £3,500; to £1 per cent. where the consideration exceeds £3,500 but does not exceed £4,250; and to £1 10s. per cent. where the consideration exceeds £4,250 but does not exceed £5,000.

The Imperial Institute

MR. HENRY BROOKE, Financial Secretary to the Treasury, announced in the House of Commons on Tuesday that discussions are proceeding between the architect of the London County Council and the Imperial College authorities and their architects on the possibility of preserving the tower and façade of the Imperial Institute.

British Sculptors

THE annual general meeting of the Royal Society of British Sculptors was held on Tuesday, March 27. The retiring President, Mr. Gilbert Ledward, RA, who had served for two years, was unable to offer himself for re-election and Mr. Mark Batten, FRBS, was elected President in his place. Mr. H. Wilson Parker, FRBS, and Mr. A. C. Carter, FRBS, were elected Vice-President and Hon. Treasurer respectively. Mr. E. R. Bevan, Mr. L. C. Bevis, Mr. H. Dow and Mr. E. Folkard were elected to the Council.

The annual report contains an abridged illustrated version of the Reynolds-Stephens Memorial Lecture on "British Sculptors from the 17th to the 19th Centuries," by Mr. Rupert Gunnis, and many other features of interest.

School Science Facilities

AN ARCHITECTURAL BROCHURE of current good practice for the building and equipping of school science laboratories, which includes a table of standards of space and cost, has been published by the committee appointed to administer the Industrial Fund for the Advancement of Scientific Education in Schools. This Fund, formed in the latter part of last year, has now received applications from 439 schools, who have completed a detailed questionnaire.

Housing Centre Conference

ALTHOUGH slum clearance is most spectacular in the large cities it is a problem which presents itself both to large towns and to small, to town and to country. This fact is reflected in the speakers and their subjects at the Housing Centre's annual conference which this year is on "Slum Clearance and Redevelopment—The Present Opportunity." The conference is to be held at County Hall, London, from June 27 to 29 and enrolment forms can be obtained from the secretary of the Housing Centre Trust at 13, Suffolk-street, Haymarket, London, SW1.

Some of the problems on the welfare side of slum clearance were discussed at a meeting of people administering slum clearance programmes, at the Centre on March 19. The meeting discussed problems arising from the rehousing of families from unfit houses and made suggestions to overcome these problems. The Housing Centre is to submit evidence from points made at the meeting to the Housing Management Sub-Committee of the Central Housing Advisory Committee.

Wallasey Scheme

WALLASEY CORPORATION is considering a scheme for the rebuilding of a large area in the centre of the town which was badly bomb-damaged during the war.

The site is in the Egremont area, and the cost of the proposed scheme is £400,000. It provides for shops, houses and flats, the whole plan being dominated by an 11-storey block.

The plan, which has been modelled, has been drawn up by the Borough Architect, Mr. W. P. Clayton, ARIBA.

Industrial Building

BIRMINGHAM CORPORATION is being asked to make grants of £250 for two years as a contribution towards the cost of a comprehensive survey of industrial building proposed by the Midland Regional Board for Industry. The Board has agreed to sponsor research into the design, building, layout and siting of factories, the work being carried out under the auspices of the Building Research Station of the DSIR, who have stated that if an income of £5,000 a year for two years could be assured, the project could start soon. Several firms have already offered sums amounting to £4,500 a year for two years towards the cost.

Appointments Open

THE BUILDING RESEARCH STATION invite applications by April 30 from architects for a Senior and a Junior Research Fellow to work with a team studying the design and construction of factories.

LEICESTER CITY COUNCIL are inviting applications by May 11, for the post of Deputy City Architect. Salary £1,412 10s. to £1,622 10s. per annum.

SHEFFIELD CITY COUNCIL invite applications by April 23 for the post of Group Leader Architect (Housing) Grade A.P.T. VII.

Details of all three posts advertised in this issue.

Professional Announcements

MESSRS. RONALD WARD AND PARTNERS (Ronald Ward, FRIBA, D. H. Marriott, ARIBA, L. P. Worby, ARIBA, D. L. Robinson, ARIBA, A. H. Walker, ARIBA) of 29, Chesham-place, Belgrave-square, SW1, announce that with effect from April 5, 1956, they have taken into the architectural partnership MR. CLIFFORD J. NEWBOLD, ARIBA, who will be primarily responsible for the West African section of the partnership.

COMING EVENTS

MONDAY, APRIL 23

LONDON REGIONAL JOINT APPRENTICESHIP BOARD.—Prizegiving to apprentices at RIBA, 66, Portland-place, London, W1. 7 p.m.

ROYAL SOCIETY OF ARTS.—Second of three lectures on "Modern Welding" by Mr. H. G. Taylor, DSc, MIEE, Director, British Welding Research Association. 6, John Adam-street, Adelphi, WC2. 6 p.m.

TUESDAY, APRIL 24

HOUSING CENTRE.—"Housing in Chile and in Latin America Generally" by Mr. Rene Urbina (Architect, Ministry of Public Works, Chile University). 13, Suffolk-street, SW1. 6 p.m.

ROYAL SOCIETY OF HEALTH.—Annual congress at Blackpool until April 27.

INSTITUTE OF BRITISH DECORATORS AND INTERIOR DESIGNERS.—"Some Observations on Colour" by Mr. James Lawrence, FIBD. Royal Society of Arts, 6, John Adam-street, Adelphi, WC2. 6.30 p.m.

INSTITUTE OF BUILDERS.—Annual dinner, Drapers Hall, Throgmorton-street, EC. 7.15 p.m.

WEDNESDAY, APRIL 25

ROYAL SOCIETY OF ARTS.—"Beauty in Danger—The Rural Scene" by Sir George Pepler, CB. John Adam-street, Adelphi, London, WC2. 2.30 p.m.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE.—"Noise and its Abatement" by Mr. C. W. Glover, MICE. 28, Portland-place, W1. 3.30 p.m.

THURSDAY, APRIL 26

CHADWICK TRUST.—"The Centenary of London's Main Drainage System" by Mr. J. Rawlinson, CBE, MICE (Chief Engineer, LCC). Royal Society of Health, 90, Buckingham Palace-road, SW1.. 5.30 p.m.

INSTITUTION OF STRUCTURAL ENGINEERS.—"Design and Construction of the Printing Works at Debden" by Sir Howard Robertson, MC, ARA, PP.RIBA., and Messrs. Ove Arup, CBE, MICE, R. S. Jenkins, AMICE, and H. F. Rosevear, MIStructE. 11, Upper Belgrave-street, SW1. 6 p.m.

GUILD OF SURVEYORS.—Annual general meeting. Building Centre, Store-street, WC1. 7 p.m.

TOWN PLANNING INSTITUTE.—30th annual Spring meeting. Bournemouth. (Continuing over Friday).

FRIDAY, APRIL 27

LONDON BUILDING AND ENGINEERING CONTRACTORS ACCIDENT PREVENTION GROUP.—Annual general meeting. Safety Centre, Horseferry-road, SW1.

INSTITUTION OF ELECTRICAL ENGINEERS.—"The Impact of Engineering on Society" by Sir Maurice Bowra, FBA, MA. Institution of Mechanical Engineers, 1, Birdcage-walk, SW1. 5.30 p.m.

SATURDAY, APRIL 28

ROYAL ENGINEERS ASSOCIATION (LONDON BRANCH).—Dinner-dance at the Chatham Room, Victoria Station, London. 6.30 for 7 p.m.

FROM "THE BUILDER" OF 1856

Saturday, April 19, 1856

FOR WORKMEN IN POOR HEALTH.—Into the bottom of a tumbler or sugar-basin put the yolks of two eggs (when they are cheap), and mill them up into a froth, with some powdered lump sugar or brown sugar; then fill the tumbler or basin with *boiling* coffee, and you will have a "before breakfast" fit for a king, and on the strength of which you may defy malaria, or a ten miles' walk. . . . It is far better than taking the morning dram or glass of beer.—PHILO.

SOCIETIES

EDINBURGH ARCHITECTURAL ASSOCIATION

Talk on the American Building Industry

THE essential difference between the British and American building industries could be summed up as being one of attitude of mind, MR. PETER TRENCH, MIOB, told the Edinburgh Architectural Association in a talk on March 13.

"The attitude of the average American architect towards his client is business-like, and towards the builder respectful," he said. "He is as concerned with the profitability of a building as he is with its proportions. He looks upon the builder as someone who has much to contribute to the building project even at the planning stage, someone who is to be treated and trusted as a member of a team. The architect and builder have a considerable respect for each other's function and technical ability.

"The attitude of the US builder differs from that of the average British builder mainly in his respect for scientific managerial techniques, his philosophy that obstacles are made to be surmounted, and his willingness to try out new techniques."

The attitude of the unions, Mr. Trench continued, reflected itself in the attitude of the operatives. If by increasing productivity the employer made more profits so then could the employee ask for higher wages. The attitude of the operative to his job was such that he was prepared to work hard because he was genuinely interested and was well paid, and because if he didn't he would not be able to keep up the payment on the car.

The attitude of the American public towards the American building industry was not one of sniping derision, but one of interest and comment. The taxi-driver was pleased to tell you that the office block in Park Avenue only started six months ago and would be ready by the fall. The jobbing builder and maintenance man was no more related to the building industry in general than filling-stations and country garages were to the automobile industry.

"This attitude of mind, however," Mr. Trench added, "is not something that can be imported overnight, for it stems from a young country whose philosophy results in ever-quickening tempo, eager for success and ruthless with failure. Twenty years is a long time for an American building company to have operated. Fifty years is history."

BIRMINGHAM AND FIVE COUNTIES ARCHITECTURAL ASSOCIATION

The Annual Dinner

AT the annual dinner of the Birmingham and Five Counties Architectural Association in Birmingham on January 20, the Lord Mayor of Birmingham, ALD. A. L. GIBSON, said that he was "a little bit worried" about development on certain sites in Birmingham. "I don't like straight lines and I don't like too much glass," he said.

"I like the dear old solid building with some curves in it and some ornamentation, and I sincerely hope that that will be the trend in modern architecture."

The Lord Mayor went on to say that he disliked the construction of modern shop fronts in the ground floors of attractive Victorian or Georgian buildings. "There is nothing more repulsive than taking an old building and attempting to modernise it in that way."

MR. W. VAUGHAN REYNOLDS, editor of *The Birmingham Post*, said that Sir Herbert Manzoni had shown that a great industrial city at the heart of the most important industrial area in the would could carry not only the torch of industrial achievement but the torch of artistic imagination. "The opportunity is there for all you architects in the city and its surroundings," he said.

MR. STANSFELD T. WALKER, FRIBA, president of the Association, referred mainly in his speech to the lead the Lord Mayor of Birmingham had taken in raising the fund to enable the Birmingham Repertory Theatre to send a company to the Paris Festival in July. Mr. Walker is a trustee of the theatre. Other speakers were Mr. C. H. Aslin, CBE, PRIBA, and Mr. Michael J. S. Clapham.

SHEFFIELD ARCHITECTS AND SURVEYORS

Annual Dinner and Dance

THE annual dinner and dance of the Sheffield, South Yorkshire and District Society of Architects and Surveyors was held at Sheffield on February 23 under the presidency of Mr. H. A. Hickson, FRIBA.

The Lord Mayor, ALD. J. CURTIS, referring to the plan for the development of the city, said that he expected the Minister's decisions would be known very soon and, although there would be modifications, the plan substantially would receive approval. Continuing, he said that not everyone was blessed with architectural appreciation and good taste, but taste grew on what it fed on and he thought in these days there was too great a similarity in all the work which architects were doing and that the architect was afraid to let himself go.

MR. C. H. ASLIN, CBE, PRIBA, said that there was a "sameness" regarding present-day architecture which was to be seen all over Europe and that architects throughout the world were thinking on the same lines and all were using the same materials—even Japan. This had been largely brought about by ease of transport and the quick dissemination of news.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS

London and Home Counties Branch Annual Dinner

THE need for wider recognition of the importance of scientific and technical studies was stressed by MR. F. J. MEEKINS, FIAS, FIArb, at the annual dinner of the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors which was held at the May Fair Hotel, London, on February 3.

Mr. Meekins, who is chairman of the branch, presided and proposed the toast of "the guests." He said that if we were to keep pace with modern developments in the world it was essential that the study of scientific and technical subjects should take precedence over the teaching of "dead" languages in our universities. In particular, he said there should be more scope for the study of architecture and surveying which should be followed by two years of practical work before the final qualifying examinations were taken.

The toast of the "London and Home Counties Branch, IAAS," was proposed by MR. JOHN HARRISON, ARIBA, County Architect for Surrey. In the course of his remarks Mr. Harrison said that present-day conditions had brought about difficulties which could not be ignored—problems connected with full employment, for example, and the problem of rising prices. The IAAS had a contribution to make to these.

In his reply MR. J. R. W. ALEXANDER, CBE, PPIArb, a vice-president of the IAAS, thanked Mr. Harrison for his remarks and mentioned that the new headquarters of the Association had been planned and refitted under the direction of Lt.-Col. Henson and were admirably suited as the offices of a learned body.

The toast of "the guests" was replied to by SIR ALFRED BOSSOM, Bart, FRIBA, MP, vice-president of the Association. Sir Alfred mentioned during his remarks a solution to the present difficulty of overcrowded roads. Build three storeys higher, he suggested, and then you could afford to make your streets 15 per cent. wider.

LONDON BUILDING ACT

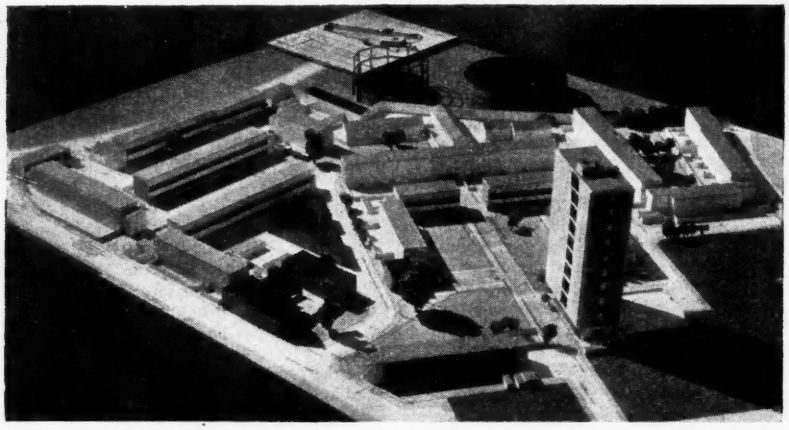
District Surveyors' Fees : One-Third Now Payable on Submission of Calculations

POWERS are taken under the London County Council (General Powers) Act 1955 to require that on the first occasion on which calculations with respect to a building structure or work are submitted to a district surveyor there shall become due to the Council a sum equal to one-third of the fees that would become payable to the Council under the London Building Acts in the event of the building structure or work being erected or carried out.

For this purpose "calculations" mean calculations relating to a building structure or work which are submitted to a district surveyor under the London Building Acts or any by-laws made thereunder, or which in the event of such building structure or work being erected or carried out could at any time under those Acts or by-laws be required to be so submitted.

The powers noted above are taken from Part II, para 12 (1) and (2) of the Act; para 12 (3) which follows lays down that where the determination of any such fee is dependent on the cost of any work, then for the purpose of determining the amount of any sum due under this section, a reference to a reasonable estimate of the cost of the work shall be deemed to be substituted for any reference to the cost of the work contained in any provisions of the London Building Acts or of any by-laws made under those Acts.

The Act received Royal assent on December 21, 1955. It is published by the Stationery Office.



A view of a model of the scheme looking from the east.

TIDEY-STREET LCC DEVELOPMENT, POPLAR

THE London County Council's Tidey-street housing site is within the Stepney and Poplar Reconstruction Area, and forms part of Neighbourhood Seven (East) which lies immediately to the north of Lansbury.

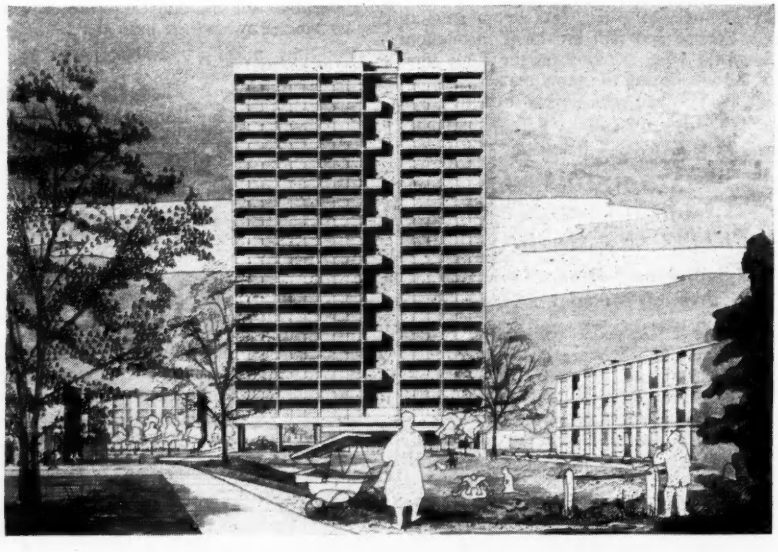
The detailed layout of the scheme was greatly influenced by the disadvantages of the site. It was considered desirable that the development should be planned in an urban manner, and should generally be low in height and that as many dwellings as possible should have private gardens.

These considerations as well as the necessity to obtain a housing density of 136 persons per acre made it essential to plan some of the accommodation in an unusually tall building. The scheme, therefore, includes one 19-storey block of crossover maisonettes, open on the ground floor to provide the visual link. The block is so planned that all living-rooms face south, away from the gas works and railways, obtaining good aspect and extensive and exciting views over the docks, the river, and beyond to the hills and countryside of Kent and Surrey.

Four shops are included in the scheme, and nearly half the dwellings are planned to have private gardens. The estimated cost of the development, housing 1,609 persons, is £1,284,000.

Standard type plans will be used in the construction of the lower height buildings, but for the 19-storey block a new crossover three-room maisonette plan has been evolved. The building, which has 18 floors of living accommodation, has a plan size of some 114 ft. by 52 ft., and contains 90 three-room dwellings.

The planning of the neighbourhood unit and the constructional work was under the direction of the architect to the Council, Dr. J. L. Martin, MA, PhD., FRIBA, who was assisted by Mr. H. J. Whitfield Lewis, ARIBA, principal housing architect, Mr. J. H. Humphreys, MICE, MIStructE, senior structural engineer, and Mr. L. W. Lane, ARICS, AMTPI, senior planning officer.



A drawing of the 19-storey block of 3-room maisonettes.

HOUSING SUBSIDIES BILL

RIBA Correspondence with MoHLG

THE RIBA have been in correspondence with the Ministry of Housing and Local Government with regard to certain aspects of the Housing Subsidies Bill.

In a letter addressed to the Permanent Secretary on February 9, attention was drawn to "two matters which are causing some concern to the profession and in which the Council fear that the provisions of the Bill may prove detrimental to the best possible solution of the problems of rehousing and redevelopment." The first is the present weighting of the scale of subsidy against 3-storey development "which will have a certain limiting effect on architectural freedom in the design of mixed development schemes of houses and flats, especially in slum clearance areas." The Council felt "that it would be of great benefit to the country if the scale should be related to current building costs and so avoid showing a financial bias in favour of any one type of development against another."

The second matter causing concern arises from Clause 11 (i) of the Bill. "It seems," in the Council's opinion, "that replacements of fit houses that have to be demolished along with unfit houses in order to permit comprehensive development, do not qualify for the increased slum clearance subsidy. This is likely to be a temptation to leave an area not completely cleared, which will operate against the proper planning of that area."

The Ministry, in a reply dated February 13, stated that "as the Minister has made clear in Debates in the House, the new rates of subsidy are not related to any particular level of building costs. They are intended, however, as far as possible, not to weight the scales in favour of one particular form of development as against another . . . You also refer to the replacement of fit houses. This point was debated at length during the Committee stage of the Bill (*Hansard*, January 31, col. 764 *et seq.*) and I would refer you to that Debate where the Minister's reasons were given in full for the policy followed in the Bill."

The RIBA's Reply

In their reply to the Ministry letter, the RIBA on February 23 stated, with regard to the latter point, that while the Minister's desire (on the grounds of finance and housing shortage) to avoid the demolition of fit houses was fully understood "we feel that the means of achieving this—by the disqualification of fit houses adjacent to the slums from the higher subsidy—may dissuade many local authorities from preparing comprehensive plans for the redevelopment of their slum areas. . . . The Royal Institute would greatly appreciate an assurance from the Minister, first, that he will give every encouragement to local authorities to proceed with plans for the comprehensive redevelopment of their slum areas, even if these plans may in practice have to be carried out a piece at a time, and, secondly, that as soon as conditions of finance and the availability of houses permit, the distinction in subsidies between fit and unfit

houses within areas which can generally be classified as outworn, will be eliminated."

In a reply to this letter (March 7), the Ministry wrote that "the Minister, of course, wishes local authorities to carry out the proper redevelopment of slum areas. In this connection, I would draw your attention to the statement made by the Parliamentary Secretary during the Debate on February 14 (*Hansard*, Col. 2240): 'I have explained that the Bill in no way debars or inhibits a local authority from proceeding by way of redevelopment areas under the principal Act, which is the Housing Act, 1936, or by comprehensive development under the Town and Country Planning Act. What it does do is to decline to put a premium in the year 1956 upon the demolition of areas of fit houses in preference to the demolition of areas of unfit houses' . . . I am sure you will understand that the Minister cannot make any announcement about future subsidy policy but you may be assured that he will bear the Council's representations in mind at the appropriate time'."

BOOKS RECEIVED

*** *Books reviewed in these columns may be obtained on application to the Book Dept., "The Builder," 4, Catherine-street, Aldwych, WC2. Cash (which should include 1s. to cover postage and packing) should accompany the order.*

MORE ADVANCED QUANTITY SURVEYING. 5th Ed. Revised by Arthur J. Willis. (London: Crosby Lockwood and Son., Ltd.) Price 35s.

THE MEASUREMENT OF PRESTRESSED CONCRETE. (An extract from More Advanced Quantity Surveying.) By A. J. Willis. (London: Crosby Lockwood and Son, Ltd.) Price 6s.

DECIMAL DISCOUNT RECKONER. Compiled by Otto Klein. (London: Frederick Warne and Co., Ltd.) Price 5s.

BUILDING SURVEYS. By F. R. Huggins, ARIBA. (London: B. T. Batsford, Ltd.). Price 10s. 6d.

ABC OF BUILDERS' ESTIMATING 4th Ed. By R. G. Bailey, AIAS. (London: Crosby Lockwood and Son, Ltd.) Price 3s. 6d.

PRINCIPLES AND PRACTICE OF PLANNING, COMPULSORY PURCHASE AND RATING LAW. By M. R. R. Davies. (London: Butterworth and Co. (Publishers), Ltd.) Price 40s.

ELECTRICAL TRADES DIRECTORY, 1956. (London: Benn Bros., Ltd.) Price 63s.

CARPENTRY AND JOINERY. By F. Keeling. (London: Cleaver-Hume Press, Ltd.) Price 21s.

DOCTORS' OFFICES AND CLINICS. By P. H. Kirk and E. D. Sternberg. (London: Chapman and Hall.) Price 96s.

ERIC MENDELSOHN. By Arnold Whittick. (London: Leonard Hill (Books), Ltd.) Price 46s.

SUN AND SHADOW. By Marcel Breuer. (London. Longmans, Green and Co., Ltd.) Price 50s.

THE ENGLISHNESS OF ENGLISH ART. By Nikolaus Pevsner. (London: The Architectural Press.) Price 16s.

ARCHITECTURAL AND BUILDING TRADES DIRECTORY. By Burke, Dalzell and Townsend. (London: The Technical Press, Ltd.) Price 52s.

IN PARLIAMENT

From Our Parliamentary Correspondent

St. Paul's Precincts Plan

THE large model of Sir William Holford's scheme for redevelopment in the vicinity of St. Paul's Cathedral, which has been loaned by the City Corporation for exhibition at the Palace of Westminster, has been studied with critical interest by members of Parliament.

Some of the more critical, who have not been favourably impressed with the proposed scheme, have tabled a motion urging the Minister of Housing and Local Government to withhold his approval of any scheme for redevelopment of the land around the cathedral which would "contrast undesirably with the Cathedral, detracting from its dignity, obliterating the view of the Cathedral from many directions and cluttering the surrounding area with buildings of an irregular outline."

The motion is in the name of SIR ALFRED BOSSOM and more than 40 members of all parties. It asks for the forbidding of any irrelevant structures "such as Temple Bar, but instead to take the utmost advantage of the present unique and unrepeatable opportunity to make the space around the Cathedral open and free of unrelated buildings* such as those marked* (A), (B), (J) and (H) on the plans now on view in the House and also the Choir School at the east end of the Cathedral, so preserving for future generations the finest gem of England's greatest architect in an appropriate setting."

The Clean Air Bill

THE establishment of smoke control areas by local authorities will be the first stage in the fulfilment of a clean air policy for Britain, as envisaged by the provisions of the Clean Air Bill which carry into effect the recommendations of the Beaver Committee on air pollution. The sections of the Bill dealing with such areas should be in force before the end of the year, and the full operation of the remaining provisions is expected within two years.

This was announced by MR. ENOCH POWELL, Parliamentary Secretary to the Ministry of Housing and Local Government, in the House of Commons, when he moved the third reading of the Bill on April 10. He said that the interval between the passing of the Bill and its full operation would not be wasted. All those concerned would have notice of what was required from them about future standards and practices, and even before the appointed days for the relevant parts of the measure were reached real improvement in equipment and practice ought to have taken place.

During the report stage of the Bill, earlier in the day, MR. SANDYS, Minister of Housing and Local Government, explained why he had rejected the proposal for a statutory council to co-ordinate the administrative and research work of Government departments and other interested bodies concerned with the question of clean air. One way of dealing with the matter, he continued, was to set up a council without Ministerial participation, leaving it free to make its own independent reports, but that would mean it would lose much of its usefulness to the Government in pushing forward the clean air policy. For his own part he intended, when the council he recommended [details of which were given in *The Builder* last week] was set up, to make a great deal of use of it in trying to obtain the views of those who were principally concerned in the operation of the policy, and would consider it unfortunate if he was not a member and chairman.

He had not yet thought out exactly what was the best composition for this council. It was clear that to be effective it must be really representative of those who had a technical contribution to make on the subject, and also who had the experience and responsibility for the execution of a clean air policy. That gave a broad indication of the wide scope he had in mind for the council. They also had to take care that it did not become so large that it was unwieldy.

When the House dealt with the question of transferring some functions of the alkali inspectorate to the local authorities provided that the Minister gave his sanction—a matter on which the Government were defeated in committee—an alternative scheme was put forward. It entailed the deletion of the section inserted into the Bill and the substitution of an amendment which would enable a local authority to make application to the Minister, and, subject to his approval, which it was understood would not be withheld except for good reason, local authority officials would be able to carry on being responsible for dealing with smoke emissions even from scheduled processes and from those processes the Minister might schedule in future.

This proposal met with the Minister's commendation, and the difficulty created by the committee's decision was solved without any conflict.

The Bill was read a first time in the House of Lords on April 11, and may well pass into law before the House adjourns for the Whitsun recess.

The Restrictive Practices Bill

THE wide divergence of opinion between the Government and Opposition about the method of dealing with restrictive trade practices was very much in evidence when the Restrictive Trade Practices Bill was considered in committee in the House of Commons on April 11 and 12.

At the end of the first day the first of the 32 clauses had been disposed of, and almost four hours were spent on one amendment of principle on the second day affecting the establishment of the restrictive practices court.

In resisting attempts to vary or control the functions of the registrar, whose duties under the Bill will be the registration of restrictive practices, MR. PETER THORNEYCROFT, President of the Board of Trade, offered to include in the clause dealing with the rules of procedure in the judicial investigation of registered agreements a provision to the effect that cases would be conducted by counsel nominated by the Attorney-General and the legal advice would be given by the Treasury Solicitor.

That, he contended, would indicate that if there was any misconduct in any particular case it would not occur on more than one particular occasion. The registrar would not have discretion in bringing cases forward. All cases subject to the orders made would have to be registered, and

* These buildings may be identified in the plan published in *The Builder* of April 13, page 291.

would have to be called up. Discretion was retained for the President of the Board of Trade to issue a direction about which groups of practices should be registered, and the order in which particular cases should be heard. He would regard any system which made a departmental Minister responsible for answering day-to-day questions in the House about what was or was not being done, as being contrary to the main principles of the Bill.

It was true that if Parliament accepted the responsibility for deciding that some of the important issues should be moved from the Executive and handed over to the judiciary the scope of Parliamentary questions sensibly would be limited. If Parliament wanted a Minister to be responsible they should make him responsible. If there were cases of particular importance the President of the Board of Trade could be asked whether he had issued a direction for them to be taken.

MR. DEREK WALKER-SMITH, Parliamentary Secretary to the Board of Trade, dealing with an amendment to ensure that the registrar's functions should be subject to such directions as might be given by the Board of Trade, said that there were provisions in the Bill which gave guidance to the registrar about his duties. With that guidance was also included the appropriate accountability to Parliament. There was nothing in the Bill to compel the directions given to be published, but there was no reason why they should not be divulged.

The Opposition's View

The main weight of the Opposition's attack was against the proposal to set up a court of law to decide whether a restrictive practice should be prohibited. SIR LYNN UNGOED-THOMAS, a former Solicitor-General, moved an amendment to provide that a tribunal responsible to the Minister should be established for the purpose. He argued that the reason the Opposition desired a tribunal was that the question whether a restrictive practice should be condemned was not justiciable. Deciding whether on balance a restriction was contrary to the public interest was a political decision and not one for a court of law.

MR. THORNEYCROFT, dealing with the choice between the two types of body, said that a Minister, saddled with many other responsibilities, could only afford to give part of his time to a study of the mass of complicated evidence. The choice was between a part-time Minister or three full-time courts. Anyone who examined the matter impartially could have no doubt which was the speedier method. He had no doubt that the courts would be able to deal with the complex and difficult issues involved; for that reason the Government had proposed mixed courts of experts sitting with a judge. To leave these matters to an administrative tribunal would lead to endless delays which would stultify the efforts of the Government to deal effectively with the question.

After further debate Mr. Thorneycroft carried the day by 209 votes to 162, a majority of 47.

Mr. Thorneycroft moved two amendments —both of which were accepted—to increase the number of members appointed to the courts from nine to 10, and to empower the Lord Chancellor to select one of the five judges for appointment as president of the court.

Subway Crossing for Firth of Forth

A SUSPENSION bridge with a main span 3,300 ft. long and two roadways 24-ft. wide is preferred by a panel of experts as a method of carrying roadway traffic across the Firth of Forth to an underwater subway 3,800 ft. long, with two roadways of a similar width, costing £9,666,000 if an Admiralty dry dock is available for the construction of the concrete segments, or £10,266,000 if a special dry dock has to be constructed for that purpose. The panel, which was set up by the Minister of Transport, set out their conclusions in a report to Mr. Harold Watkinson, published on April 12 (Cmd. 9741, HMSO, price 1s.).

The panel state that the proposals for a tunnel to carry road-way traffic across the Forth have been made on a number of occasions, and the latest scheme, proposed by Messrs. Maunsell and Partners, differed fundamentally from the earlier ones, in that it was intended to construct a massive reinforced subway, 3,800 ft. long supported on piles. They point out that their estimate of the cost has to be compared with Mr. Maunsell's total estimate of £6,811,000.

The scheme for a bridge, at a total estimated cost of £9,960,000, was prepared by Messrs. Mott, Hay and Anderson.

OTHER BUSINESS

Gypsum and Plasterboard

MR. GIBSON asked the Minister of Works in the Commons on April 10 what was the total amount of gypsum and plasterboard produced at January, 1953, 1954, 1955 and 1956; and whether, in view of the price, he would consider imposing price control for those products.

MR. BUCHAN-HEPBURN, in a written reply, stated: Quantities of gypsum and plasterboard produced in the years 1952-1955 are:

	Gypsum (thousand tons)	Plasterboard (million sq. yds.)
1952	1,458	43.7
1953	1,522	53.4
1954	1,654	55.7
1955	1,580	54.6

The answer to the second part of the question is "No."

Working Conditions, Dounreay

SIR DAVID ROBERTSON asked the Lord Privy Seal if he was aware that a 68-hour week was being worked at Dounreay; that other essential building work on housing, schools, slum clearance, and agriculture could not be manned unless similar excessive overtime earnings were paid; and if he would direct the United Kingdom Atomic Energy Authority to operate two 8-hour shifts per day at Dounreay in future.

MR. BUTLER, replying on April 11, said: I am informed by the Atomic Energy Authority that the single-shift system at present operating at Dounreay is necessary to complete the work in time for the station to fulfil its function in the nuclear power programme. Recruitment of two 8-hour shifts, it this were possible, would mean an increase of at least 40 per cent. in the labour force, amounting to 800 more men at the peak period. In the authority's opinion this would cause more local disturbance than the present arrangements.

SIR DAVID ROBERTSON also asked the Minister of Labour whether he was aware of the excessive hours of work employed in the construction of the atomic energy plant at Dounreay; and if his medical advisers were satisfied that men on this heavy construction work could go on indefinitely working 68 hours per week without injury to health.

MR. ROBERT CARR, Parliamentary Secretary to the Ministry of Labour, in a written reply, stated: My advisers have no evidence that the hours worked at this site are harmful to health.

WORSHIPFUL COMPANY OF TURNERS

Prizegiving to Craftsmen

THE Master of the Worshipful Company of Turners, Mr. Peter Smithers, MP, presented prizes on January 26, at the Apothecaries' Hall, EC4. These prizes were for craftsmen who, as a result of the Final Examinations of the City and Guilds of London Institute, in Machine Shop Engineering and Woodcutting Machinists' Work, were worthy of prizes under a scheme approved by the Court of the Company. In his address of welcome MR. SMITHERS mentioned that it seemed some time ago that the art of turning was not needed in the modern world. However, the craft was now flourishing.

In the class of Machine Shop Engineering prizes were presented to the following: First prize, the Loveland Silver Medal and £10—A. S. Ringrose, Bournemouth Municipal College of Technology and Commerce; Second prize, the Loveland Bronze Medal and £6—G. Horton, Coventry Technical College; and the Third prize, £4—Cyril Evans, Borough Polytechnic, SE1. By reason of the first two prizewinners, the Llewellyn Howell Memorial Trophy and the Loveland Challenge Cup for Work in Metal, went to the Bournemouth Municipal College of Technology and Commerce and the Coventry Technical College, respectively.

The First prize in woodcutting machinists' work, The Dugald Buckler Silver Medal and £10 went to B. Hurst, of the Manchester Municipal College of Technology; Second prize, £6—J. Hardacre, Municipal Technical College, Blackburn; and Third prize of £4—P. Giles, LCC Hammersmith School of Building, Arts and Crafts. The St. Catherine's Trophy and the Loveland Challenge Cup for Work in Wood went to the Manchester Municipal College of Technology and The Municipal Technical College, Blackburn, respectively, by reason of the first two prize winners.

The Senior Award in the Plain Turning Competition, the Freedom of the Company and a Silver Medal, went to F. J. Howe, of Tunbridge Wells. The ceremony of the Freedom of the Company which was bestowed on Mr. Howe dates back to the early 17th Century. The Junior Award of a Bronze Medal and the Henry Kennett prize of books, tools or instruments to the value of £3 went to M. Everett, aged 14, of the Markhouse Secondary School, Walthamstow. A special prize of a Silver Medal went to R. N. Fairchild, of British Oxygen Engineering, Ltd., for engineering turning in metal.

MR. WOODBINE PARISH proposed a vote of thanks to the Master and the Company of Turners on behalf of the City and Guilds of London Institute which was seconded by DR. M. L. YATES.

INSTITUTE OF CLERKS OF WORKS

Annual Dinner in London

THE Institute of Clerks of Works of Great Britain Incorporated held its annual dinner at the Drapers' Hall, London, on April 14. The guest of honour was the Right Hon. The Lord Mayor of London, Alderman C. L. Ackroyd. MR. E. G. STYLES, ARSH, president of the ICW proposing a toast to the Lord Mayor wished him success in his term of office. THE LORD MAYOR in his reply wished success to the Institute in the years to come.

When proposing a toast to the Institute MR. D. H. MCMORRAN, ARA, FRIBA, made some comments on the position of the architect in the building industry. He said that there was a lack of nobility in the new buildings being erected in London. Buildings were becoming picturesque. Mr. McMorran continued that there was too much professionalism in architecture and the architect was becoming more part of a team of industrial design and less of a scholar.

MR. P. J. LUXTON, MBE, a past-president ICW, responding, thanked Mr. McMorran and went on to mention activities of the Institute over the years with particular regard to examinations.

The toast of "Architects, engineers and surveyors" was proposed by Mr. W. B. Douglas, JP, a past-president of ICW, and was replied to by Mr. P. V. Marchant, MICE, MIMunE. Mr. F. H. Peck, MRSH, a past-president of ICW, proposed the toast of "our guests" to which Mr. K. C. F. Foster, FIOB, president of the LMBA, responded.

THEATRE ADVERTISING

"Brevue" at Croydon

ART is for ever seeking fresh forms. The art of advertising, which has progressed over the past century from the sandwich-man to the Technicolor glory of the Great Wide Screen, has turned back from ITV to seek new inspiration in the living theatre.

In "Brevue," it may be that we have the beginning of a new form of advertising art. Presented to an invited audience of 800 builders, architects and decorators at the Civic Hall, Croydon, on April 10 by the well-known Eastbourne firm of decorators' merchants, Messrs. C. Brewer and Sons, Ltd., with the co-operation of eight leading firms of manufacturers and some members of their staffs who have a taste for amateur dramatics, film-making or championship bricklaying, the production was a qualified success. The films were not always visible and sometimes patchy and irritatingly inaudible. Their continuity and camera work were not uniformly good. As to the "live" part of the entertainment, the dialogue too often lacked sparkle; and the acting, apart from the meticulous "deadpan" virtuosity of the Continental lecturer in Scene IX, who failed to steal the show only because he left most of the audience wondering whether he was acting or not, was of middling amateur standard; the scenes lacked what is known in show business as "snap." But it was a beginning and it may be that, in years to come, the industrial theatre will develop a fully-fledged life of its own, with its professional producers, stars, stage managers and technicians, its hard core of sound character actors and perhaps even a body of specialist writers. Messrs. Brewer (who have now shown this production to about 2,000 people) are to be congratulated on their enterprise in having made a start.

TRAINING FOR MANAGEMENT

Success of Cambridge Venture

A NEW and highly successful venture in the field of training for industry has recently taken place in Cambridge. The Eastern Federation of Building Trades Employers has combined with the University Board of Extra Mural Studies to arrange a week's course for senior executives of building firms at Madingley Hall, Cambridge. The course, the purpose of which was to provide a background of knowledge of the growth and present organisation and problems of our industrial structure, with particular reference to the function of management, has made history in two respects—it is the first of its kind in the building industry and it is the first run by the University Extra Mural Board in co-operation with the Employers' Federation.

The members of the course, who were drawn from building firms all over the Eastern Counties, spent the week in the typically academic atmosphere of Madingley Hall and the lectures were designed to stimulate thought and discussion on the problems of combining full employment and economic stability in a modern democracy.

The success of the course indicates that it will almost certainly become a regular feature of the extensive training programme of the Eastern Federation.

MR. DENNIS VOSPER, MP, Parliamentary Secretary, Ministry of Education, visited Belstead House, Ipswich, on March 3, during the progress of one of the residential courses for general foremen run by the Eastern Federation of Building Trades Employers.

BUILDERS' BENEVOLENT INSTITUTION

Annual Dinner in London

THE NINETY-SIXTH annual dinner of the Builders' Benevolent Institution was held at the Dorchester Hotel, London, on April 10. MR. NIGEL HANNEN, BA, FIOB, president of the National Federation of Building Trades Employers, proposing a toast to the Institution and its president, said that he hoped that more old people would know of the Institution and the assistance it could give them. MR. GUY G. LAWRENCE, president of the BBI, replying, said that judging by the response to the last appeal for funds, made at a time of the beginning of the credit squeeze, B and K also stood for benevolence and kindness.

MR. K. C. F. FOSTER, FIOB, president of the LMBA, paid tribute to the work of Mr. Derek Walker-Smith, QC, MP, Parliamentary Secretary, Board of Trade, when proposing the toast of "the visitors."

Replying for the guests, MR. WALKER-SMITH mentioned how well the building industry had responded to calls made upon it by the nation. He wished the Institution good fortune in the years that lie ahead.

UNIVERSITY OF LONDON

New Building

IN addition to the proposed new College of Engineering illustrated in our issue of April 6, plans for new buildings for the University of London are in course of preparation for the development of the adjoining site for use by the biology department of the University. This building, which will link up with the existing anatomy building, is designed for post-graduate studies in anthropology, biochemistry and botany, and will provide for research work on isotopes by 400 research students. It will be vibration-proof and sound-proof, and will contain a lecture theatre at basement level, as well as a boiler house for heating the whole college. The steel-framed structure will be faced with Portland stone on the frontage to Gower-street. The architect is Prof. H. O. Corfiato, FRIBA, of Corfiato, Thomson and Partners, and the structural consultants are Messrs. Collins and Mason, of 32, Netherhall-gardens, NW3.

Other projects in course of preparation for the University are the new building on the north side of Gordon-square, which will house the Institute of Archaeology and the Institute of Classical Studies, and in which the University examinations (now held at South Kensington) will be held; and the new Warburg Institute, for which a site has been cleared at the south side of Gordon-square. The architects for the former scheme are Messrs. Booth and Ledeboer, F/FRIBA, and the contract has been placed with Messrs. Dove Bros., Ltd. The architects for the Warburg Institute are Adams, Holden and Pearson, F/FRIBA, 28, Gordon-square, WC1.

ELECTRICALLY-HEATED COUNCIL HOUSES

Birmingham Experiments Suggested

BIRMINGHAM house building committee is to consider a proposal for experimenting with building electrically-heated council houses. The committee is to examine a suggestion by Cllr. R. A. HOLLAND, who said that installing electric heating would (1) save about £150 per house in building costs by eliminating chimneys, fireplaces, fuel stores, etc.; (2) cut fuel bills for the tenant by between five and eight per cent.; and (3) help the fight for achieving a smokeless Birmingham in 10 years.

He said on January 18 that he had been making an inquiry into the subject and these figures were experts' estimates. "The Corporation is at present building about 1,500 ordinary houses a year. This would bring a reduction of more than £150,000 a year in house building costs, which could help rents."

Cllr. Holland pointed to the development of nuclear power, and suggested that eventually this should bring a considerable reduction in the cost of electricity. "We ought really to look 20-30 years ahead with our house building," he said. "It is no good putting electric fires into a normal type of house. You have got to have specially designed houses, eliminating chimneys and providing proper ventilation."

WAGES AND INFLATION

Dangers of Cost-of-Living Link

SPEAKING at a luncheon of the Economic League at Birmingham, on April 13, MR. HALFORD REDDISH, chairman and managing director of the Rugby Portland Cement Co., Ltd., said that even though the recent White Paper itself failed to stress the Government's responsibility in squeezing inflation out of our economy, he was glad to see that the Chancellor himself did not minimise it.

"In my view," he went on, "it is essentially a matter for the Government, not by physical controls or direct interference with industry—heaven knows we have got enough of that anyway—but first by its monetary policies and secondly by having the moral courage, however unpopular it may be politically, to tell the country frankly what inflation is and what it means: to give the electorate the true facts of our economic life.

"The simple fact is that inflation arises basically because as a nation—and in most cases as individuals—we are trying to get more out of life than we put into it, which is dishonest.

"Ever since the war we have tried to shield ourselves behind artificial screens which have only made our position worse. Exchange control amounts to telling the world that we propose to try to enjoy a higher standard of living in this country than we earn. Does anyone in his senses really believe that that can continue indefinitely? Primarily it is a moral question."

The present tendency, said Mr. Halford, was to link wages to the cost-of-living index. But no section of the community, be it organised labour or anyone else, was entitled to be insulated from a rise in the general price level. If wages continued to be geared to the cost-of-living index the end could only be disaster. In any healthy economy wages could be geared only to production —to the ability of the individual business to pay those wages."

INSTITUTE OF BUILDING ESTIMATORS

Discussions on Examinations

THE 1955 Annual General Meeting of the Institute of Building Estimators was held at the Kensington Palace Hotel, London.

The report of the Council was presented and arising out of the report a very lively discussion ensued on the question of examinations with particular reference to the Examination Booklet recently printed and circulated to all members. As a result the booklet is to be discussed by the Regions and then reconsidered by the Council, but in the meantime it was agreed that preparations in respect of the second Intermediate and first Final Examinations due to be held in May, 1956, should not be held up.

Mr. Joseph C. P. Cocksedge was elected president in succession to Mr. L. A. Taylor, who remains a member of the Council. Mr. W. G. Jones was elected senior vice-president.

The examination of the Institute of Building Estimators is to be held on May 25 and 26 and the final on May 24, 25 and 26 at Royal Society of Health, 90, Buckingham Palace-road, London, SW1.

CRICKET

Fixtures for 1956

VARIOUS CLUBS associated with the building industry have now issued their fixture lists for the forthcoming season.

RIBA XI

The RIBA Cricket Club (secretary: Mr. D. L. Robinson, 140, Kenilworth Court, Lower Richmond-road, SW15) would be pleased to hear from architects with cricketing ability who would be interested in joining the club. New members are required who would be available for at least one or two of the following matches:

Wed. May 23, v Vitruvians. AA Ground, Elstree.
Wed. June 13, v AA. AA Ground, Elstree.
Wed. July 18, v LMBA. Earlsfield.
Wed. Aug. 15, v RICS. Hinchley Wood.
Wed. Aug. 29, v Club Cricket Conference. Wimbledon.
Tues. Sept. 11, v Blue Circle CC. Wimbledon.

VITRUVIANS XI

Wed. May 9, v Architectural Association. Elstree. 2 p.m.
Wed. May 23, v RIBA. Elstree. 11.30 a.m.
Fri. July 6, v NFBTE. Richmond. 11.30 a.m.

NFBTE XI

Fri. July 6, v Vitruvians. Richmond.
Mon. July 9, v LMBA. Bromley.

LMBA XI

Wed. May 30, v LCC Architects' XI. Kidbrooke.
Fri. June 8, v Blue Circle. Bromley.
Wed. June 20, v RICS. Ibis Ground, Chiswick.
Mon. July 9, v NFBTE. Bromley.
Wed. July 18, v RIBA. Earlsfield.

LCC

Financing of Capital Expenditure

THE LONDON COUNTY COUNCIL, at its meeting on Tuesday (April 17) had a report before it on the financing of capital expenditure prepared by the finance committee.

The committee refer to the present practice of the Public Works Loan Board not to advance money to local authorities without inquiring what steps have been taken to raise money in the stock and mortgage markets. The committee say that they have not thought it practicable at present to revert to the pre-war practice of lending to the Metropolitan borough councils but, so as not to compete with them in the mortgage market (which is the borough councils' principal source of borrowing apart from the Loan Board), the committee have decided to restrict the LCC's market borrowing (apart from short-term loans) to the issue of stock when necessary. The committee have taken advantage of an offer of a loan of £10m. on mortgage from a private lender for two years at a cost to the Council, including expenses, of 5 9/16ths per cent. per annum. £5m. has been offered to the Metropolitan borough councils on terms which will cover the LCC's expenses.

Tenants' Car Park

THE housing committee reported that, although 82 garages have already been provided for the use of tenants at the LCC's Aveley estate, Essex, and another 62 are being built, many cars and motor cycles are being parked on the roads and verges of the estate. The committee propose, as an experiment, to provide a free car park for 70 cars on a site in Easington Way.

UGANDA ASSOCIATION OF BUILDING AND CIVIL ENGINEERING CONTRACTORS

Chairman's Report

THE following are extracts from the report of the chairman, Mr. J. A. Sinclair, of the Uganda Association of Building and Civil Engineering Contractors, which was presented at Kampala on January 20.

During the year we have maintained contact through correspondence with the National Federation of Building Trades Employers in both the UK and South Africa and with our fellow association in Kenya.

Through the Joint Consultative Committee we have asked for a fluctuations clause to be inserted in future tenders. A year ago the industry had to face an increase of 30 per cent. in the rates of unskilled labour, and except for one or two employing authorities the contractors had to carry the cost of this. To prevent this loss in the future, tenderers will no doubt anticipate rises and provide for these in their estimates.

During the year members have had the usual trouble with the Immigration Department. As there is an extreme shortage of skilled African craftsmen in almost every trade, it is generally agreed that with the low out-turn of skilled craftsmen from local technical institutes, immigration of artizans must continue. In spite of this, an immigrant artizan is allowed to remain here for four years only on a Temporary Employment Pass. In the meantime to put the matter into a realistic state legislation should be carried out so that the TEP shall have no time limit and should be renewable year by year.

The method of charging for water supplies on building contracts in future is to be by meter, and payment will be made at local rates.

The year promises to show a continued expansion in our industry in both the building and civil engineering sections, and the Association looks forward to continuing its good relations with all employing authorities and to mutually assist in the carrying out of all works in Uganda, which we estimate this year will not be less than £8m. worth.

ECONOMIC SURVEY OF WEST GERMANY

Increased Openings for British Exporters

DESPITE the fact that there is practically no type of manufacture in Germany which is not paralleled in England and vice versa, the development of trade between the two countries over the past year or two shows that an extremely large number of British manufacturers have lines for which German customers can be found.

This is one of the conclusions drawn by the authors of the "Economic Survey of Western Germany" published on February 15 (HMSO, Price 12s. 6d.). The Survey was compiled by the Commercial Department of the British Embassy at Bonn. It is the first account of economic and commercial conditions in Germany to be published for the Board of Trade since 1935. The special problems facing British exporters to Germany are the subject of particular attention in the Survey.

News in Brief

Employment Situation, February

THE number of workers engaged in civil employment in Great Britain at the end of February was 22,950,000, a reduction of 35,000 since the end of January, states the Ministry of Labour and National Service. The principal decreases were in building and contracting, distribution, and in printing and publishing. At the end of February there were 1,440,000 workers engaged in the building and contracting industry; a decrease of 18,000 compared with 1,458,000 at the end of January. However, the February figure is still in excess of the figure for February, 1955 when 1,432,000 people were employed in the industry.

State Economies and Inflation

Mr. Frank Hurst, president of the Sheffield Chamber of Commerce, speaking at the annual dinner and dance, held at Sheffield on April 13, of the Yorkshire and North-Eastern Branch of the Engineers Buyers' and Representatives' Association said that Government economy was the only way to combat inflation. "Any right-thinking person can see where there is great scope for economies to be effected," he said. He went on to say that they were asked to exercise restraint and not increase prices while at the same time buyers received letters intimating increased prices. He added that the new post office rates and charges and proposed road and rail increases would give a sharp twist to the inflationary spiral.

Guide to Automation

At a time when the word "automation" is coming into public use it becomes important to have a simple explanation of what it means. This has been made available in a small booklet entitled "Flow Production and Automation," by Frank G. Woollard, MBE, MIMechE, Hon ACT (Birm), who pioneered the early attempts at automation as long ago as 1923. The booklet, price 5s., can be obtained from Industrial Administration Group, c/o, College of Technology, Gosta Green, Birmingham 4.

Outdoor TV Aerials

Wirral Urban Council has changed its views regarding the erection of outdoor aerials for television on their housing property. Hitherto, tenants who erected such aerials were liable to be evicted under an agreement signed by all tenants. However, the advent of commercial television has led the council to change its policy and now tenants will be allowed to erect them. It has been told by experts that an outdoor aerial was essential if satisfactory reception was to be obtained.

Film Review

The Scientific Film Review is now being published every second month in a new format. Three issues each year will contain film reviews and appraisals and articles on various aspects of scientific and industrial films, and other information of interest to people concerned with the application of films to scientific and industrial problems. The other three issues will generally be devoted to films on specific subjects. The first issue of the latter kind will deal with films on chemistry. A future issue will be devoted to films on building and construction. The review can be obtained, price 3s. 6d., from the Scientific Film Association at 164 Shaftesbury-avenue, London, WC2.

Solid Fuel Study

For the benefit of delegates attending the Institute of Fuel Conference at Church House, Westminster, on May 1 and 2, and for that of others professionally interested in domestic heating by solid fuel, the Coal Utilisation Council is holding an open week at its London Training Centre, Vauxhall-walk, SE11, from April 30 to May 4 inclusive.

Road Haulage Rates Increase

In view of increases in operational costs during the last 12 months, and of the wages award which comes into effect next week, the national Rates Committee of the Road Haulage Association decided at a meeting in London on April 11 that road haulage rates should be increased by a minimum of 5 per cent. as from April 16.

"Too Many Filling-stations"

There has recently been so great a demand for sites for petrol filling-stations in Liverpool that the City Council is to make a full investigation as to how they can legally put a halt to the establishment of these stations. Ald. J. Braddock, leader of the Council, said: "Oil companies are taking up every available site in the city, and are going to engage in a war of extinction between themselves."

New President

We regret that in announcing in our April 13 issue, the election of Mr. J. F. Beagley, site agent of Wates, Ltd., as president of the London Association of Builders' Foremen and Clerks of Works, it was stated that Mr. Beagley is also president of the London Builders' Foremen's Association. Mr. H. T. Piesse is, of course, the president of the latter association, Mr. Beagley having been president during the Coronation year, 1952-53.

Birmingham Suburb Development

Work will be started in Erdington this year on a £2m. estate, complete with shops, a school, and perhaps a 15-storey block of flats. The flats, if included in the programme already approved by the City's House Building Committee, will be the highest in Birmingham. At present 12-storey blocks of flats are the highest. The development, which may take up to two or three years to complete, is to be known as the Lyndhurst Estate and is off the Sutton-road at Erdington. On its 25 acres it is planned to erect 748 dwellings, including five blocks of 11-storey flats. It is planned to build a welfare home, old people's bungalows, two-storey houses, and six shops. There is provision for a club and a public house.

Multi-storey Car Park, Sheffield

Sheffield Town Planning Committee has agreed in principle to the building of a multi-storey car park in Sycamore-street to accommodate about 900 vehicles. The Estates Surveyor, Mr. W. H. Rothwell, has been instructed to investigate the means and cost of acquiring the site, which will include property demolition, and the City Engineer, Mr. Henry Foster, is to prepare detailed estimates. A further scheme of another multi-storey car park on a site at Meeting-house-lane and Bank-street is also under consideration.

Road Statistics

There are more motor vehicles to the mile in Britain than in any other country, and they are increasing by more than half a million a year. This is one of the facts contained in the 1955 issue of "Basic Road Statistics," the British Road Federation's annual handbook. Other items from this facts-and-figures picture of what roads and road transport mean in the country's life are: Motor taxation in the year 1954-55 was £386,835,000, while Government expenditure on the roads was £33,594,000. Goods vehicles, now totalling well over a million, have more than doubled since the end of the war. "Basic Road Statistics, 1955," is obtainable from the BRF, 4A, Bloomsbury-square, WC1, price 1s. 3d.

Birmingham Overspill Offers

Redditch is prepared to provide 1,000 houses for Birmingham overspill in five years, subject to satisfactory financial arrangements being made with Birmingham, Worcestershire County Council and the Ministry of Housing and Local Government. The Redditch offer follows an undertaking by Birmingham to pay a 10-years subsidy of £7 7s. per annum for each house occupied by an overspill tenant nominated by the city. The offer follows a meeting of Redditch Urban Council at which recommendations made by delegates who met the Birmingham overspill committee, were approved. In addition, Tamworth has confirmed its readiness to take some of Birmingham's overspill programme, and for this purpose has approved a provisional programme of 1,700 houses by 1965.

Polish Mechanical Bricklayer

A demonstration of a "mechanical bricklayer" took place recently in Warsaw. The electrically operated machine, it is claimed, lays 60,000 bricks per hour. The machine also spreads the mortar and spaces the openings for doors and windows, and can build walls of any height and thickness. It is said to be operated by one unskilled man. These facts have been given by the Polish Embassy's Press Office.

Office Staff and Accidents

A new booklet has recently been prepared by the Royal Society for the Prevention of Accidents. Its aim is to impress upon the office worker that he, no less than the factory employee, is beset by dangers during the course of his daily work; indeed, because office hazards are not always obvious, they may present even greater risks. The booklet is entitled "Danger!—Office Staff at Work," and has been written and illustrated in an informal style of great appeal to office staff.

Copies, price 6d., can be obtained from the Royal Society for the Prevention of Accidents, Terminal House, 52, Grosvenor-gardens, London, SW1.

Poor Workmanship

Birkenhead Corporation is concerned with what is alleged to be a poor standard of workmanship on some of the houses being built for them. The Borough Architect says he has directed the attention of the builders

concerned to certain defects such as floors and to the general poor standard of workmanship on one contract. The clerk of works has also reported defects to the builders. The Housing Committee has set a time limit in future for the remedying of defective work.

Joinery Employers

The annual meeting of the Joinery and Woodwork Employers' Federation took place recently at the Connaught Rooms, London, WC2. Mr. van Westerborg was unanimously re-appointed chairman, together with Messrs. B. Pratten and Neill H. H. Newsum as vice-chairmen and Mr. H. Howarth, hon. treasurer, and the following members were re-elected as members of the executive committee:—Messrs. W. E. Adams, JP; James B. Austin, JP; S. John Bassett, E. A. Busby, K. G. Cook, C. H. Cuttriss, ACIS; John Duxbury, C. Jamieson Harvey, C. W. T. Poshin, Tom M. Scotney, MBE, JP, and P. Wildey.

Water Pollution Research

Professor F. H. Garner, OBE, PhD, FRIC, MIMechE, MIChemE, has been appointed chairman of the Water Pollution Research Board of the Department of Scientific and Industrial Research in succession to Professor D. M. Newitt, MC, DSc, MIChemE, FRS.

Work Study

The science of work study is inclined to be associated only with industry in factories. However, in a film that has been made by the British Productivity Council, it is emphasised that work study can be applied in many other fields. In this film entitled "One Man and His Job" the subject is a factory worker who assembles machinery, to all but the experienced eye, very quickly. The film demonstrates how by work study principles the man's job was made easier and production almost doubled. This film and others in the same series are available from the Council at 21 Tothill-street, London, SW1.

Terrazzo Specification

A standard specification for *in situ* and precast terrazzo has been prepared by the National Federation of Terrazzo-Mosaic Specialists, and may be obtained from their offices at Queen's House, Leicester-square, WC2.

RE Dinner and Dance

The annual dinner and dance of the London Branch of the Royal Engineers Association is to be held at the Chatham Room, Victoria Station, London, on Saturday, April 28, when all sappers of all ranks are welcome. Details and tickets, price 12s. 6d., from Mr. J. S. Pearson, Room 31, Horse Guards, Whitehall, London, SW1.

Institute of Wood Science

The Institute of Wood Science was incorporated recently as an independent body at the City of London College, London, EC2.

In view of the ever-increasing interest in the scientific aspects of the study of wood, from anatomy to the chemistry of wood adhesives or the design of timber structures, the Institute of Wood Science has been formed with the avowed object of advancing knowledge in this and allied subjects.

Aims and activities will include the organisation of meetings, lectures and excursions, co-operation with other bodies with similar interests and the ultimate establishment of branches in various parts of the country.

1955 Timber Exports, Sweden

The Swedish-International Press Bureau reports that, although no detailed figures are as yet available, Sweden's exports of sawn and planed timber in 1955 are likely to have totalled about 1,000,000 standards, the highest figure since the 1920s, according to Mr. Knut Ronge, head of the Swedish Timber Export Association. Some decrease in the output is expected for 1956.

Several factors indicate considerably lower exports in 1956, Mr. Ronge emphasizes. The wait-and-see attitude of the British importers, Sweden's largest customers, has induced the Swedish mills to plan more cautiously for the current year. Sales to the Dutch and other Continental markets and also to North Africa are of more normal scope. In general, the market situation is sound and the forecasts for business trends both in Europe and America in 1956 are optimistic.

Eastern FBTE Year Book

The Eastern Federation of Building Trades Employers has published from 95, Tenison-road, Cambridge, its 1956 Directory of Members and Year Book. Under five headings of general, contracts, insurance, education and labour the book gives many interesting details of much interest to builders and people connected with the industry.

RECENT BRITISH TRADE MARKS

THE following particulars, which are extracts from the *Trade Marks Journal*, are reproduced with the permission of the Controller of HM Stationery Office. The *Trade Marks Journal* can be obtained from the Patent Office, annual subscription £5.

QUIL-NESITE: 747239. Composition flooring. A. Quiligetti and Co., Ltd., Milton-st. Works, Plymouth Grove, Manchester 13.

TRUFLEX: 747348. Non-metallic flooring materials. Cardinal Flooring Co., Harlan Works, Riddell-st., London, SE5.

VISTALITE: 746590. Glazed metal wall structures for buildings. W. B. Casement and Engineering Co., Ltd., Smith-rd., Wednesbury, Staffs.

SPRAGLOX: 742528. Lacquers, The Valentine Varnish and Lacquer Co., Ltd., Colham Mill-rd., West Drayton, Middlesex.

EPIHARD: 743875. Paints, varnishes, painters' colours, distempers, japanned lacquers. Gittings and Hills, Ltd., Tower Varnish Works, Salford-st., Birmingham 6.

STRUCTUPRUF: 743112. Bituminous compounds (not being paints) for use in waterproofing roofs. STRUCTUTHERM: 743113. Non-metallic floor-making materials. Structural Waterproofers, Ltd., 5/6 Nigel Playfair-ave., London, W6.

HALIFAX: 747829. Bricks and tiles, all made of non-metallic refractory materials. Joseph Morton, Ltd., Cinder Hills Fire Clay Works, Halifax.

BYCEL: 739086. Adhesives for use in the textile and paper industries and for paper-hanging. J. T. and H. Blythway, Ltd., 53, Spring-gdns., Manchester 2.

CHROMAST: 746202. Paints and preservatives against rust and against deterioration of wood. Evode, Ltd., Glover-st., Stafford.

MERILUX: 748153. Paints, distempers, varnishes and enamels. Thomas Merry and Co., Ltd., Suffolk Works, A.B.Row, Birmingham 4.

GELKYD: 77774. Natural resins, paints, varnishes and paint, and varnish driers and printing inks. Cray Valley Products, Ltd., St. Mary Cray, Orpington, Kent.

GRILLAGRIP: 748822. Welding grips and vice grip wrenches, all being hand tools. J. P. Isaacs, Ltd., 80, Church-rd., W3.

EVOSIL: 747365. Preparations (other than paints) for waterproofing cement and the like building materials. Evode, Ltd., Glover-st., Stafford.

ULTRALAC: 746117. Paints, enamels and lacquers. Walter Carson and Sons, Ltd., Lombard-rd., London, SW11.

FABROLOSE: 747057. Paints, varnishes, enamels, distempers, japans and lacquers. Hadfields (Merton), Ltd., Western-rd., Mitcham, Surrey.

WET SAND IN LORRIES

Prosecution Under New By-law

THE first prosecution under a new County Council by-law prohibiting the deposit of water on the highway from lorries loaded with wet sand and gravel was heard at Market Bosworth Magistrates' Court recently.

Messrs. Jacques Bros., Ltd., of Belvoir-road, Coalville, a firm owning a sandpit near Ibstock, were convicted of the offence and were given an absolute discharge.

In evidence, a deputy surveyor, MR. A. E. SMITH, said he had seen a lorry belonging to the firm parked in a road at Ibstock. Water was pouring from the vehicle and he was concerned that a nuisance would arise from the fact that the temperature at that time was near freezing-point. The driver of the vehicle, Mr. G. Preston, of Ibstock, denied that the lorry was losing a great volume of water from its load.

The managing director of the firm, MR. JOSEPH W. JACQUES, said that in order to prevent the loss of water from washed sand while it was being transported by road every vehicle was parked for a period to allow for proper drainage.

Representing the firm, MR. W. H. MUSSON stated that, in accordance with the requirements of the by-law, all reasonable and proper steps had been taken to prevent the dripping of water on to the road, but ordinary commercial practice entailed the loss of a certain minor amount of water while wet sand was being carried.

The deputy chairman, MR. R. L. BEDINGFIELD, said he hoped the case would serve as a warning.

OFFICIAL NOTIFICATION

The Town and Country Planning (Grants) Regulations, 1956

THE Minister of Housing and Local Government has made the Town and Country Planning (Grants) Regulations, 1956 (SI 1956, No. 224, HMSO, price 4d.).

These regulations, made under Section 93 of the Town and Country Planning Act, 1947 (as set out in Section 50 of the Town and Country Planning Act, 1954), (1) provide for payment of Exchequer grants to local authorities in respect of:—

(*a*) (parts II and III of the regulations) expenditure incurred in connection with the acquisition, clearing and preliminary development of land acquired for planning purposes or for the provision of public open space and in respect of land appropriated to a purpose for which grant would be payable under those parts of the regulations had the land been acquired for that purpose, (*b*) (part IV) expenditure incurred in the payment of compensation or the taking of action under Part III or Part VIII of the Act of 1947, (*c*) (part V) expenditure in connection with the restoration, repair and adaptation of buildings of special architectural or historic interest; (2) determine the basis and method of calculation of such grants and lay down the terms and conditions of payment.

IQS Year Book

The 1955-56 Year Book of the Institute of Quantity Surveyors has been published from 98, Gloucester-place, London, W1.

"What an Architect Wants from the Modular Society"

THE IMPLICATIONS FOR THE DESIGNER OF INDUSTRIAL PRODUCTION AND STANDARDISATION OF BUILDING COMPONENTS

A PAPER entitled, "What an Architect Wants from the Modular Society" was given by MR. WILLIAM E. TATTON BROWN, MA, AADipl, ARIBA, AMTPI, Deputy County Architect, Hertfordshire, at a meeting of the Modular Society held in London recently. Mr. Tatton Brown is himself a member of the Society's Council, and we take the following extracts from his remarks:

After two years of publicity and persuasion, it is now generally accepted that the Modular Society can bring advantages to the building-owner, the contractor and the manufacturer. Very little has so far been said about the hopes and fears of the architect. What does he get out of it? Has he anything to gain? Has he anything to lose?

Many architects, I believe, view the activities of this society with suspicion. Industrial production means standardisation and standardisation implies limitation of choice. Is this change capable of bringing the designer any compensating advantages, and if so what are they, and how can they be increased?

Hertfordshire's Solution

My views, besides being strictly personal, are naturally coloured by the experience of the last six or seven years working for the Hertfordshire County Council. In common with other authorities, the problem facing the Hertfordshire County Council in 1946 was to provide 10,000 new school places in five years at a time when steel, timber and bricks were in short supply and labour was almost unobtainable. Traditional construction employing pre-war methods of building could not provide the answer. It was, therefore, decided to transfer the work required in building, as far as possible from the site where labour was scarce to the factory where it was plentiful. From the first it was laid down that the parts made in the factory should be small and capable of being handled by two or three men with simple tackle. Unlike the majority of systems developed at that time, it was essentially a system of prefabrication of *parts* as opposed to prefabrication of *buildings, or sections of buildings*. The parts could be assembled in a variety of ways to suit changing conditions of site and user requirements. Looking back, one can say that any success which has been achieved stems from the fact that the means and not the ends were standardised, so that when materials became less scarce the principles worked out in 1946 in steel and concrete could be extended to timber and plastics and a number of other materials. Over 100 schools have been built and a further 50 are on the stocks.

The use of grid planning enabled a degree of standardisation which has paid dividends in terms of time in the architect's office in sketch designs, working drawings, administration and site supervision. This saving can be turned to good account by spending more time at the outset on analysis of client's requirements on development, research, decoration and colour—vital aspects of the service which an architect gives his client which have too often to be curtailed or glossed over.

Mechanisation and Skill

It is often supposed that in so far as mechanisation eliminates manpower, it reduces the need for human skill. In fact, of course, the reverse is the case. Prefabrication calls for a greater and not a lesser degree of skill at all levels. First of all on the job, the craftsman has to exercise a higher degree of care in handling costly components of far higher quality and finish than those normally delivered on to a building site. A far greater degree of precision in fixing is also required as the slightest bodge or botch will be immediately apparent. Secondly, in the manufacturer, because he has to work to keener tolerances and requires far greater accuracy in scheduling components in the right order and delivering them at the right time. Thirdly, in the designer, because of the discipline required in handling a limited set of parts and yet producing an aesthetic whole. There is no room for the hack draughtsman in this type of office.

You will notice that up to this point I have spoken about grid-planning. I have not mentioned the word module. The advantages that we experienced working on an 8 ft. 3 in. grid were those which every designer of large projects, from skyscrapers downwards, has experienced: the esoteric advantages of standardisation applied to a particular job which are largely thrown away when that job is completed and the erection 'team disperses. What is the reason for this?

The reason lies, I believe, at the root of the difference between grid-planning and modular co-ordination. In the case of the 8 ft. 3 in. grid, the steel frame was modularly co-ordinated in the sense that it could be used in a variety of ways in multiples of 8 ft. 3 in. But all the components were not co-ordinated to the same grid. There was no simple mathematical relationship between the width of the stanchion, the grid or the gap and therefore between components based on the grid and those based on the gap. In fact, dimensions in the Herts Schools were scarcely co-ordinated at all.

This absence of co-ordination of the sizes of individual components has proved a serious handicap. Further difficulties were encountered when collaborating with other authorities using the same system. I remember a meeting between architects of the Ministry of Education, the LCC and HCC when an attempt was made to adjust the slight differences which had arisen in the design of components. Each representative fought remorselessly for his own requirements and it proved impossible to reconcile them. The manufacturer, meanwhile, confronted by further special requirements from other architects cut the Gordian knot and made his own decision on standardisation to which all who had not the good fortune of having a programme large enough to command the economies of batch production were forced to conform. He produced in fact the "closed system."

This is a situation in which I believe modular co-ordination alone can provide the answer. Architects who hold out for their own requirements are absolutely justified. It is intolerable to have to put into a building another foot of height on every floor or an unrequired set of fireproof casings on every column, in the interest of someone else's standardisation. It is equally impossible for a manufacturer to cope economically with individual demands if he is to maintain the advantages of mass production. The solution is a compromise based on preferred dimensions which can only be arrived at after long experience and inquiry. The first task of the Modular Society is to enlarge the range, choice and interchangeability of standard articles—in a word, to "open-up" the closed system.

Economy in building is dependent upon the maximum use of the largest convenient component. To join two small units on the site when one big one could do the job, simply in order to satisfy some dimensional dogma is lunacy. Every opportunity must be made to break out of the arithmetical additive approach based on brick construction. The whole future of modular development depends upon finding out the maximum size of assemblies consistent with their ease of handling and variety of use. This is another task of the Modular Society.

The next task is to make it possible to use different components of different thicknesses and different tolerances and different manufacture in conjunction with one another on the same building. Carpenter and joiner is the name of the trade responsible for joining one piece of wood to another by dovetailing, morticing, tusk-tenoning, mitring or scarfing and a variety of other highly complicated and ingenious ways devised after years of development to meet a set of specific requirements. A similar set of joints is required for joining modular components.

Need for a New Trade

The theoretical basis of this study has been indicated by Rodney Thomas and published in the summer number of the Modular Quarterly. Side by side with this work on the drawing board, a need will arise for a new trade—"assembler and jointer" I shall call it—equipped with hand-powered tools, toggles and rivet guns and all sorts of mechanical devices which enable industrial products of high precision to be assembled quickly and accurately.

It is clear that once this development gets under way, something must be done to ensure that the client, the building-

owner, shares the benefits. This may involve a change in contractual procedure. The traditional system of competitive tendering may have to be replaced for the time being by the negotiated tender. In these negotiated tenders, the bill of quantities in addition to scheduling the size and weights of components or materials will have to indicate the time or labour cost required for fixing.

Factory-produced components are usually more expensive than those made up on the site but they require less time to fix. However, lack of knowledge of fixing processes and uncertainty about deliveries are often reflected in conservative estimates of fixing in the make-up of tenders. Because of these imponderables the target labour cost should be negotiated and made subject to variation and inserted in the bill of quantities or schedule of components and materials and target labour costs, in short, a "bill of times."

The theme of this paper has been standardisation, but standardisation of means, not of ends. If this standardisation of means is intelligent and designed always with a view to increasing the range, variety and scope of the end product, it will add enormously to the sum of human happiness.

To sum up, an architect wants six things from the Modular Society:—

(1) The opening-up of the closed system, by

(2) the acceptance of a simple set of planning grids or number patterns which make it possible to make use of,

(3) the maximum variety and the maximum size of components that industry can produce consistent with ease of handling, and

(4) a grammar of jointing conventions to supplement the standard text books on building construction, and

(5) a trade of assembler-jointers who can fix any modular component to any other and keep the rain out, and

(6) a contract system which will give fair shares of the immense advantages to be reaped by the manufacturer, the contractor and last but not least the client.

All this will take time and cannot be achieved without the sacrifice of something. It is foolish to believe that modular design will be as unrestricted as pre-modular design. Certain architectural effects will be impossible.

OBITUARY

J. Campbell, DCM, MM, ARIBA

WE have received the following tribute to Mr. J. Campbell, DCM, MM, ARIBA, whose death occurred on his 69th birthday on December 31, at Edinburgh:

Mr. Campbell lived a full and eventful life, his early training as an architect being interrupted by the first world war, when he served as a private soldier in the Royal Scots. Volunteering for service, he displayed great gallantry on many occasions and was twice decorated, first with the Military Medal and then with the Distinguished Conduct Medal.

He returned to qualify and practise as an architect in Manchester, and it was then that he began to take an interest in the education of building and architectural students. Following several years as practising architect and part-time lecturer, Mr. Campbell was appointed to be the first Head of the Department of Building at Huddersfield Technical College. He held this post until he retired at the age of 61.

On taking up residence in Edinburgh, Mr. Campbell was soon invited to take up part-time lecturing duties in the Department of Building at the Heriot-Watt College, and during the past seven years some thousands of building and quantity surveying students have benefited from his most able and enthusiastic teaching and from his unfailing patience and perseverance during "tutorials," particularly with the younger students.

Mr. Campbell devoted the last 45 years of his life to building education and was for a long time a member of the council of the Yorkshire Educational Association to the Building Industry. Since coming to Scotland he served as secretary to the Scottish Association for Building Education for the five years following the creation of the association. It has been largely due to his wide experience and hard work that this association has been held together and its activities directed to the betterment of building education.

The students and staff of the Heriot-Watt College and all his old associates and friends will regret the passing of this kindly and simple man. N. C. S.

Douglas Adshead Grant, FRIBA

WE REGRET to record the death of Mr. D. A. Grant, BArch, FRIBA, of 40, Norland-square, London, W1.

Launcelot Hugh Ross, MC, FRIBA

LAUNCELOT HUGH ROSS, MC, FRIBA, has died at Glasgow at the age of 70.

Mr. Ross received his architectural education as an articled pupil to John Rust of Aberdeen; assistant to Sir J. J. Burnet; at the Gray's School of Art, Aberdeen; at the School of Art, Glasgow; and at the University of London.

Mr. Ross concentrated during his early career on designing shop premises in Glasgow, Aberdeen, Ayre and Edinburgh.

Cecil Howard Lay, FRIBA

WE REGRET to announce the death, on February 6, of Mr. Cecil Howard Lay, FRIBA, of Aldringham, Leiston, Suffolk. Mr. Lay, who was born in 1885, commenced his architectural education by being articled to J. S. Corder, of Ipswich. He took a three-year course at the Architectural Association, and also studied in France and Belgium. His works included various domestic buildings in Suffolk and a village inn sign, Biddenden, Kent. His publications included contributions to the AA Journal.

Harry Garnham Watkins, FRIBA

WE announce with regret the death, at the age of 85, on April 9, at Milton, Hampshire, of Mr. H. G. Watkins, FRIBA. Mr. Watkins received his architectural education as an articled pupil to W. Watkins, FRIBA, of Lincoln. He became a partner in the firm of Bromley and Watkins and designed telephone exchanges at Liverpool, Altrincham, Bromley and Streatham; bank buildings at Nottingham, Wolverhampton and Grantham; a large lecture hall, shops and offices at Nottingham; a warehouse in London for Boots, Ltd.; new works at Beeston for the B.L.M. Ericson Co.; new works at Nottingham and Ilkeston for J. B. Lewis and Sons, Ltd.; a convalescent home at Skegness; and a station and offices for the Anglo-American Oil Co., at Nottingham. Mr. Watkins was a Past-president of the Nottingham and Derby Architectural Society.

Philip C. Newcombe, FRIBA

MR. PHILIP C. NEWCOMBE, FRIBA, a former president of the Northern Architectural Association, has died at his home at Jesmond, Newcastle-on-Tyne, at the age of 75.

N. C. Robertson, CMG, MBE

IT IS with regret that we announce the death of Mr. Norman Charles Robertson, CMG, MBE, FRSA, deputy managing director of E. K. Cole Ltd., and a director of Ekco Electronics Ltd. He was 47.

It was in 1930 that Mr. Robertson joined E. K. Cole Ltd., as chief of test and within the next 13 years he became successively, production manager and works manager. In 1943 he was appointed to the board of directors and two years later was elected deputy managing director. In 1944 he was awarded the MBE in recognition of his war services. In 1951 Mr. Robertson accepted the then newly-created position of Director-General of Electronics Production, Ministry of Supply. He returned to E. K. Cole Ltd., in 1953 and the following year received the CMG for his two years' service with the Ministry.

Ronald Stanley Brewis, MC, JP, TA

MR. R. S. BREWIS, whose recent and untimely death we regret to record, was managing director of the Twickenham Gravel Co., Ltd. He was a founder-member of the Ballast, Sand and Allied Trades Association and for over 25 years a leading figure in the industry. From being a member of the original committee which founded the Association, Mr. Brewis became a member of the National Council in 1930. In 1939 he became chairman of the Association and guided the industry through the difficulties of the early war years.

Bert Austin

MR. W. J. Wills writes: May I send you a tribute to a craftsman only known in the Dorking district? Mr. B. Austin, a bricklayer, died recently from a heart attack in his 69th year. He had been ill for some time. Austin was a skilled craftsman with a good general knowledge of building. There was only one way to do a job, the right way, and he knew it and would see that it was done so. Amongst private work done in the district he did a certain amount of garden work, terracing, etc., for which he was in demand. He took a great pride and interest in his work, which had in it just that something denoting the craftsman, rare to-day when good bricklayers, like carvers, are becoming scarce. Austin had no technical college training but just a country apprenticeship; perhaps it was a hard way, but he learned his trade. For a number of years he was employed by Messrs. Trollope and Colls and other local builders. He also served in the first world war.

INQUIRY BUREAU

Sound Insulation of a Bungalow Ceiling

Q.—The main living room of my bungalow has an asbestos cement board ceiling nailed to the roof rafters. The rafters in the central portion of the roof space have been boarded over with timber flooring and light walls have been erected on a framework thus forming a room. This is used by children as a playroom but their activity above is extremely audible in the living room below. Can you advise me of a method, at a reasonable cost, by which I could insulate the sound coming from the playroom? J. A. S.

A.—Transmission of sound from a room above through the ceiling to the room below is always a problem and one that can only be satisfactorily solved if designed correctly in the first instance. However, much of the noise can be reduced by laying insulating material between the joists. This could be worked through from the ends without disturbing the floor boards. Fibreglass is an excellent material for this purpose and may be used either as a loose wool or in blanket form.

If it is possible to lift the floor boards without disturbing the framework of the walls, then it would be possible to provide a more efficient sound barrier. Assuming this to be possible, then the quilted form of insulating material, again fibreglass or Cabot quilt, should be laid over the whole area, lapping joints to ensure a complete unbroken blanket and leaving space between the top of joists and ceiling as an air space. The floor boards may then be re-laid packing where necessary to obtain a level top surface to the floor. This will make a considerable difference though it must not be expected that it will eliminate all trace of noise.

Additional to either of the suggestions made, at some time it may be considered worth the time, trouble and expense, to replace the asbestos ceiling with one of the many proprietary insulating ceiling boards.

H. O. D.

Legal Basis of a Contract

Q.—If a drawing and a specification are submitted to a builder, and the quotation says that the work will be carried out as shown on the drawing, would this commit the builder to abide by the drawing and the specification?

If the answer is that he has to conform with the drawing only, would part performance in carrying out an operation detailed in the specification but not shown on the drawing (such as the electric light fittings, which, in this instance, are not shown on the drawing) commit him to carrying out all the work detailed in the specification?

B. G. A.

A.—A legal correspondent writes: A contract comes into existence as a result of an offer by one party and the acceptance of that offer by the other party In the present case, it would be necessary to consider the whole of the correspondence and any conversations between the parties in order to ascertain precisely what was offered and accepted.

It may be useful, however, to set out the general principles to be applied. In building contracts the general rule is that the tender constitutes the offer. In this case, apparently, the builder submitted a tender to do certain work in accordance with the drawing. It is then necessary to consider the terms of "BGA's" reply. In this connection there seem to be two possibilities.

"BGA" may have said in effect (either in writing or orally) that he accepted the tender without making any reference to the specification. If so, then *prima facie* the builder's offer was accepted for the purposes of the contract, and the contract must be deemed to relate to the work shown on the drawing. This presumption may, however, be rebutted. "BGA" is entitled to ask the builder why he quoted for the work shown on the drawing when the invitation to tender referred to the specification as well. Moreover, consideration should be given to the precise circumstances in which the builder carried out some of the work detailed in the specification but not shown on the drawing. If he started this work without further instructions, that might well be evidence that the parties all along intended that contract should include all the work detailed in the drawing and specification; in other words, that the omission in the tender of any reference to the specification was merely an oversight.

"BGA" may, in acknowledging the tender, have referred to both the drawing and specification. In that case, I do not think it could be said that he had accepted the tender unless it could be shown that the omission in the tender was an oversight. If it was not an oversight, presumably "BGA" and the builder would be deemed to have entered into a contract to do the whole of the work without fixing a price; in that case, the parties would be deemed to have agreed that the work should be done at a fair price.

A. E. T.

Pointing Brickwork

Q.—I own a house 50 years old and intend pointing the front brickwork. The house is built of lime, sand and stock bricks. Can you recommend a suitable mix for the work? A. G. K.

A.—Stock bricks bedded in lime mortar should be pointed with a mortar strong enough to resist the action of the elements. A one part cement, one lime and six sand would be a very satisfactory mix for the work proposed and one that would work up the "fatty" material thus making it easy to work and provide a good finish to the joint. It is assumed that the intention is to point with a "weather joint."

H. O. D.

Condensation in a New House

Q.—I occupied a new house just a year ago. During the past summer ventilation was given to dry the house out. The site (a sloping one) is well underdrained and one or two small springs are picked up and conveyed to drains.

Using the Building Research Station Digest No. 58 descriptions, "severe" to "bad" condensation is being experienced on all window frames and glass, water running down onto cills and thence down the walls marking them badly, and for most of the day one cannot see out of the windows. When windows are opened slightly during a good day the condensation clears, but when closed the windows steam up again. The colder the weather outside the worse it becomes. Walls and ceilings are not affected (except in the kitchen, where condensation is even worse and the extractor fan does little to help matters).

The heating has been varied; increased heating, less heating, no heat at all; without success. Constant heat was also maintained day and night on one occasion. Two nearby houses of almost identical construction, one with electric underfloor heating, have no such trouble. It would be appreciated if you could give any information on this trouble and suggest how the annoying problem can be cured. E. V. S.

A.—Though after a year one would expect the drying out to be complete, it is possible for it to take considerably longer and I am of the opinion it is this that is the source of the trouble. It would have been interesting to have known if the other two houses referred to were built at approximately the same time.

The fact that after opening windows the condensation clears indicates insufficient air movement and this would appear to be one item that might be given attention, the insertion of air bricks near ceiling level and out to the exterior, not into the cavity, would help in this direction. Before attempting this, however, I would suggest opening up the house at every opportunity to allow free air circulation, and it may well be that after another summer the trouble would not be repeated next winter. To assist in keeping the walls at a more even temperature attention should also be paid to the cavity itself. It is often the practice to ventilate cavities by inserting air bricks just above or below the damp-proof course and just below eaves level. While there are two schools of thought on whether cavities should be ventilated, it is certain that heat losses are greater if the cavity is ventilated and in consequence the interior walls are cooler than they need be. If the house in question is ventilated I would suggest it is sealed; this should assist considerably in avoiding moisture condensing.

Heating the house excessively during any drying out period should be avoided for I am sure it will be appreciated that this only has the effect of drawing the moisture into the building when the object should be to dispose of it externally. There are bound to be from time to time periods when there are sudden changes in temperature which would result in condensation appearing on walls and windows no matter what precautions are taken to avoid it.

H. O. D.

Power Truck Safety

The makers of industrial transport trucks have published an interesting booklet on safety designed to help the driver of their vehicles. It is called the "Operator's Safety Code" and deals in "Highway Code" style with possible hazards when driving fork-lift trucks, tractors, straddle carriers, fixed and elevating platform trucks, pallet transporters and other equipment common to the movement of materials and stores. It is well illustrated with sketches of disasters that might happen if do's and don'ts are not complied with, and costs 1s. post free from the Secretaries, Industrial Truck Manufacturers' Association, 94/98, Petty France, London, SW1.

LAW REPORTS

Surveyor Acting for Building-owner in Party Wall Award

CHANCERY DIVISION

BEFORE MR. JUSTICE DANCKWERTS

Whitefleet Properties v. St. Pancras Building Society

IN the Chancery Division on March 15 Mr. Justice Danckwerts held that a Party Wall Award, entered into by surveyors acting for the owners of two adjoining properties in Bride-lane, EC, was binding upon the parties.

His lordship was considering a motion, which raised a preliminary point, by Whitefleet Properties, Ltd., owners of premises at 21, Bride-lane, who sought a declaration that the St. Pancras Building Society, owners of 20, Bride-lane, were bound by a Party Wall Award, entered into by their surveyor and plaintiffs' surveyor under the provisions of the London Building Acts (Amendment) Act, 1939.

A Dangerous Structure Notice had been served in respect of the party wall, between Nos. 20 and 21, and the award purported to authorise work to be done to it and to direct the sharing of costs between the parties in proportion to the extent of their user. Contesting the motion, the defendants denied that their surveyor had authority to enter into the award on their behalf and contended that they were not bound by it.

After his lordship had decided the preliminary point in favour of the plaintiffs, the parties agreed to treat the motion as the trial of the action between them, and Mr. Justice Danckwerts granted plaintiffs a declaration that the award was binding on defendants and an injunction to restrain them from preventing plaintiffs from carrying out work to the wall as authorised by the award. Costs were awarded against defendants.

Opening plaintiff's case, MR C. L. HAWSER said the Party Wall Award was entered into by Mr. Rubin Seifert, FRIBA, of Great Ormond-street, WC, plaintiffs' surveyor, and Mr. G. Norton Hannam, FRICS, FVI, of Gray's Inn-square, WC, defendants' surveyor, on August 25, 1955. Defendants had instructed Mr. Hannam to deal with the matter on their behalf, but afterwards plaintiffs were informed by Mr. Hannam that he had withdrawn and were later told by defendants that Mr. Hannam had no authority to enter into the award.

"This was a serious matter so far as plaintiffs were concerned. More than half their building in respect of which a Dangerous Structure Notice was served early in 1955 by the City Council, has been pulled down, but this dangerous wall remains in a bad state because we have not been able to comply with the Notice," said Mr. Hawser.

Giving evidence for the plaintiffs, MR. SEIFERT said that at no time until November or December, 1955, did anyone tell him Mr. Hannam had no authority to enter into the award. He believed that Mr. Hannam had authority.

MR. ERIC WILLIAM BALES, of Finchley-road, NW, managing director of the defending society, stated that they had not authorised Mr. Hannam to enter into a Party Wall Award. They had no knowledge that such an award was under consideration when it was made in August, 1955.

Giving judgment on the preliminary point, MR. JUSTICE DANCKWERTS said he found that the defendants had conferred full authority upon Mr. Hannam and the award was binding upon them. Plaintiffs' surveyor dealt in good faith with defendants' surveyor, whom he supposed to have authority to deal with matters arising under the London Building Acts (Amendment) Act, 1939.

The matter really rested upon documents and correspondence connected with the case. Mr. Bales had given evidence as to conversations alleged to have taken place with his surveyor, Mr. Hannam, but his lordship was unable to accept Mr. Bale's version of the matters so far as they were inconsistent with the correspondence.

A letter written by the secretary of the building society to Mr. Hannam on July 19, 1955, was very important. It enclosed a copy of a letter received by the Society from the plaintiffs' surveyor which referred to the dangerous and unsafe condition of the party wall and requested Mr. Hannam to deal with it on the Society's behalf. Mr. Hannam then wrote to the plaintiffs saying that he had been instructed to deal with the matter.

His lordship said it seemed to him that the letter of July 19, in the light of instructions given to Mr. Hannam over the telephone, conferred upon him full power to deal with the party wall in accordance with what the situation required, including procedure under the London Building Acts (Amendment) Act. It was plain that Mr. Bales was fully aware that plaintiffs were serving a Party Structure Notice which could only have the result of the procedure under the Act. Defendants had argued that they were not served with a proper notice.

Section 124 of the Act provided for various ways of serving a notice. The notice served in the present case was not served in accordance with any of the provisions in section 124, but it seemed to his lordship that the section was not exclusive and that notice might properly be served on an adjoining owner by other means.

Mr. Hannam had authority to accept service on behalf of the defendants and by sending the notice to him plaintiffs had duly served it on the defendants.

It was also said by defendants that the Act provided that notice must be given by the building owners, whereas it was given on behalf of Messrs. Jack Rose and Co., of Dover-street, WC, who were plaintiffs' managers. "As Messrs. Rose were plaintiffs' managers it seems to me that the notice is a perfectly good one," said the judge.

A surprising feature of the case was that instead of the defendants writing immediately to Mr. Seifert after the award had been made and a conversation about it had taken place between Mr. Hannam and Mr. Bales, nothing was said to plaintiffs, their surveyor or their managers until November 29, 1955, when Mr. Seifert found that Mr. Hannam had withdrawn as surveyor for the defendants. It was not until January 2, 1956, five months later, that it came out in a letter from the building society to plaintiffs' solicitors that the question of Mr. Hannam's authority was being raised.

Defendants also took the objection that plaintiffs' surveyor should have named the plaintiff company in the award, instead of Messrs. Jack Rose and Co. The question of an undisclosed principal, however, had nothing to do with the case. Mr. Seifert put in the managers' names quite properly because they were the people who were giving him his instructions. There was nothing contrary to the provision of Act in regarding the managers as the building owners.

Another point taken by the defendants was that the Act provided that the appointment of a surveyor should be made in writing, and that Mr. Hannam was not given written authority to act. His lordship held, however, that the letter of July 19, 1955, was an appointment of Mr. Hannam which satisfied the requirements of the Act. In the circumstances the letter was an authority wide enough to comprise the appointment of Mr. Hannam as the society's surveyor for all purposes connected with the premises.

"It seems to me," said Mr. Justice Danckwerts, "that where you have a party wall in the City of London and it becomes in a dangerous condition, it is obvious that work will have to be done on it by the owners and adjoining owners and the Act provides procedure in case they do not agree in all respects. There was nothing unexpected in appointing a surveyor to act throughout, even in arbitration proceedings. The award was in all respects binding on the defendants as well as on the plaintiffs."

Supply of Artificial Stone : Builders' Appeal Against Bradford Corporation Fails

COURT OF APPEAL

BEFORE LORDS JUSTICES SINGLETON, HODSON AND ROMER

Leedsford, Ltd. v. Bradford Corporation

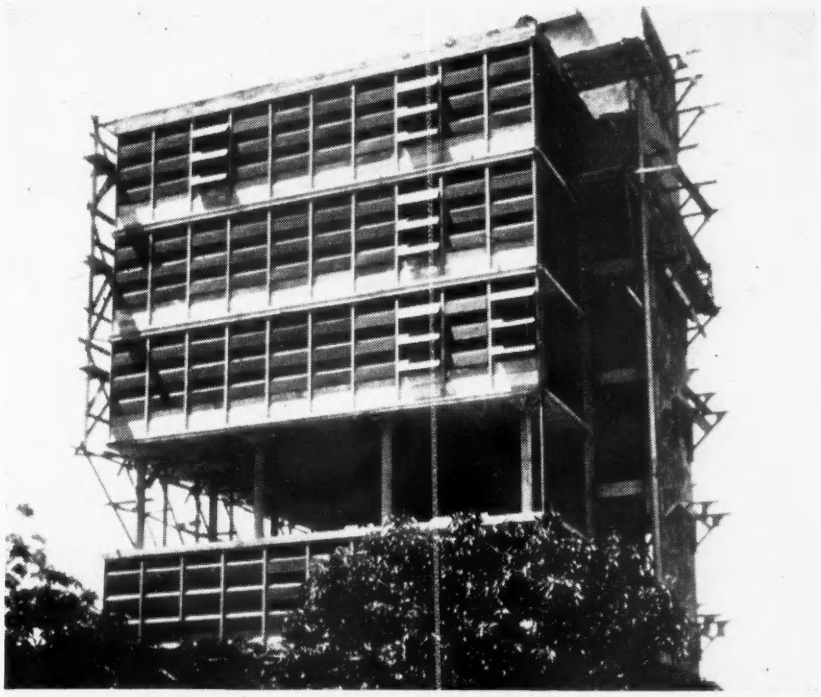
A BUILDING contract which provided that artificial stone supplied by a specified company "or other approved firm" be used was the subject of a dispute between the builders and the architect, and resulted in an action by the builders for damages for breach of contract.

An appeal by Leedsford, Ltd., of Eccleshill, Bradford, against the dismissal by Mr. Justice Oliver at Leeds of their claim against Bradford Corporation was dismissed by the Court of Appeal on March 1.

The company were the contractors for the erection of a school the contract price being £40,826. The judge had held that a breach of contract had not been proved.

LORD JUSTICE SINGLETON, giving judgment, said that the builders sent to the city architect the names of two companies who supplied artificial stone, and he replied that he would approve only the company named in the contract. Counsel for the builders had submitted that the provision that another firm might be approved was inserted for the builders' benefit, and that if they were able to obtain approval of a company which would supply artificial stone of the proper quality at a price less than that charged by the named company they were entitled to have the benefit of it and that in denying them that right the architect broke the contract.

The words "or other approved firm" did not add to the builders' rights and there was no obligation on the architect to approve a firm other than the named one. If he acted honestly it could be said that there was



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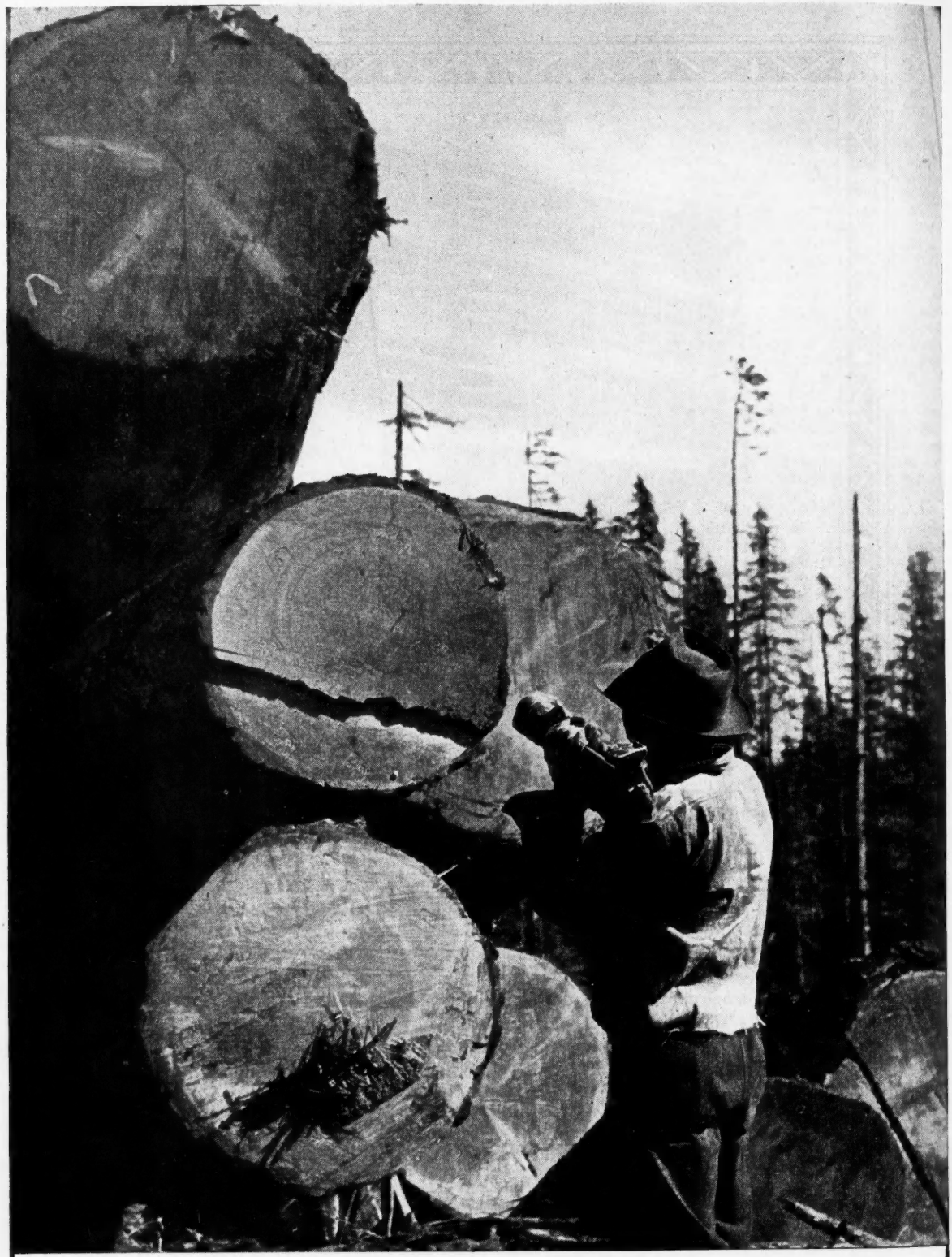

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no more to be done. He was not under a duty to ask the builders to submit the name of another company.

The Corporation were anxious to have the best artificial stone and the architect did not, his lordship thought, act unreasonably in saying that he would not have the names of any more companies.

"I agree with Mr. Justice Oliver that there was no breach of contract," said Lord Justice Singleton.

Lords Justices Hodson and Romer agreed that the appeal failed.

"Free" Licence Sum Exceeded : Building Owner's Claim Fails

QUEEN'S BENCH DIVISION

BEFORE MR. JUSTICE HARMAN

Frank W. Clifford, Ltd. v. S. Garth and Aygee Properties, Ltd.

MR. JUSTICE HARMAN, in the Queen's Bench Division, on February 16, gave judgment for £1,078 and costs, in favour of Frank W. Clifford, Ltd., architectural decorators and shopfitters, of Dorset-place, SW, in an action against Miss Susan Garth, of Onslow Court, Regent's-park, W, and Aygee Properties, Ltd., for the balance of the cost of work and materials in converting premises in Shepherd Market, Mayfair, into a coffee bar and restaurant.

The judge said that in 1954 when the conversion was done work up to a limit of £1,000 was allowed without a licence. The defendants had contended that as that sum was exceeded and no licence was obtained the contract was void for illegality and nothing could be recovered in respect of any of the work. It was a defence which the court could not but regard with a good deal of odium; the kind of defence that always came into being where freedom of contract was interfered with.

His lordship said the case was not one where the builder set out to do work for a certain amount exceeding £1,000 so that it could be said it was illegal from the start. He set out on a cost-plus basis and no doubt when he got to £999 19s. 11½d. it was still perfectly legal.

When he overstepped the limit he did not make illegal all that had gone before but merely the excess, just as if he had had a licence up to that amount and had overstepped it. The defence of illegality, therefore, could not succeed.

Delay in Completing Contract : Corporation Wins Appeal Not to Pay Compensation

QUEEN'S BENCH DIVISION

BEFORE MR. JUSTICE SELLERS

Kirk & Kirk, Ltd. v. Croydon Corporation

A DISPUTE arising out of a contract between Kirk and Kirk, Ltd., building contractors, of Atlas Works, Putney, and the Croydon Corporation, for the building of Fairchild Secondary Modern School, in 1950, came before Mr. Justice Sellers in the Queen's Bench Division on March 19.

The matter arose on a special case, stated for the opinion of the Court, by an arbitrator who had found that the contractors were entitled to £1,402 9s. 1d. as compensation for delay in completing the contract.

The contractors alleged that the delay was due to the failure of the nominated subcontractors to supply facing bricks in time, and it was alleged that that failure was to be attributed to the Corporation who were alleged, under the terms of the RIBA contract, to be liable to make good the loss.

The contract was dated January 9, 1950, and Mr. Charles Thomas Ayerst, ARIBA, was the designated architect. The contractors alleged that in December, 1949, the architect approved a facing brick manufactured by Henry J. Greenham (1929), Ltd., and was told that they had 100,000 in stock and could deliver the remaining 150,000 required from May, 1950. He instructed the contractors to place an order with Messrs. Greenham, and sent them a copy of the quotation. The contractors duly placed the order, but delivery was not made as promised, and as a result there was delay (found by the arbitrator to be four weeks) in completing the contract. By a letter of May 16, 1950, the architect gave permission to the contractors to build the inner skin of common bricks (the school had cavity walls).

The arbitrator found that Mr. Ayerst's action amounted to making arrangements for the delivery of the facing bricks.

MR. STEWART BROWN (for the Corporation, who appealed against the award) submitted that nothing was done by the architect to hinder the contractors in the reasonable execution of the work, and he did not make himself responsible for the supply of the bricks. He only repeated to the contractors what Greenhams told him. He allowed the inner wall to be built first to minimise delay.

MR. A. J. IRVINE (for the contractors) submitted that the architect's arrangement for the supply of the bricks, imposed on the contractors, was a modification or a direction affecting the way the contractors could carry out their planned programme. They were entitled to compensation for the delay.

MR. JUSTICE SELLERS, giving judgment, held that the delay was caused by the suppliers' breach of contract with the builders, and the Corporation could not be responsible for breach of contract to which they were not parties.

The contractors were therefore not entitled to compensation. As to the suggestion that there was a "postponement" of the building of the outer wall, entitling them to payment, he held that the permission to build the inner skin first was a benefit to the contractors and not a cause of loss.

He gave judgment in favour of the Corporation, with costs.

BRITISH STANDARDS

Cord-operated Ceiling-switches (BS 2652 : 1955)

THE NEW British Standard, price 2s. 6d., for cord-operated ceiling switches covers a commonly used class of switch which is not included in BS 1299:Part 1:1946 (tumbler switches). As with BS 1299, the maximum rating is five amperes and 250 volts. The switches are for use in substantially non-inductive AC circuits only, or in substantially non-inductive AC and DC circuits indiscriminately. The cord-operated ceiling switches may be of either the surface mounting or semi-recessed type. Definitions for the various types of switch are given in Section 1. Section 2 gives the constructional requirements which apply to all switches for domestic and similar purposes, and also specifies the special requirements for the action and attachment of the operating cord. Section 3 specifies the tests required, including type tests. The electrical tests include current-carrying capacity, endurance, overvoltage and over-current capacity and high-voltage tests. Tests of mechanical strength and endurance, and of the maximum pull to be exerted on the cord, are also included. Section 4 gives requirements for marking.

Outline Dimensions for Electric Lifts (BS 2655 : Pt. 3 : 1955)

THIS NEW British Standard, price 3s., gives outline dimensions for the installation of six classes of electric lifts: light traffic passenger lifts, general purpose passenger lifts, intensive traffic passenger lifts, hospital bed/passenger lifts, general duty goods lifts and heavy duty goods lifts. The dimensions result from a detailed study of the accepted lift practice that has developed in this country over a number of years: the standards of other countries, including the USA, have also been taken into account.

Dimensions are given for the lift well, entrances, sills and machine-room floor in relation to the car floor, the car's capacity and its speed. These dimensions have been used extensively and found satisfactory, and it is therefore hoped that architects, consulting engineers and lift makers will adopt them as *minima* wherever possible.

Building Sands from Natural Sources (BS 1198, 1199, 1200 : 1955)

THE ISSUE by the British Standards Institution of the revisions of BS 882 and BS 1201 "Concrete aggregates" in August, 1954, provided for a more efficient use of the available supplies of material from natural sources. This was achieved by setting out gradings which could be related to concrete mixes, so that most of the available aggregate material could be utilised, provided the mixes were suitably designed.

The Institution has now issued on similar lines a revised edition of BS 1198, BS 1199 and BS 1200, collectively covering: sands for internal plastering with gypsum plasters; external renderings: internal plastering with lime and Portland cement; and floor screeds; and also for mortar for plain and reinforced brickwork; blockwalling and masonry.

Graphical Symbols for Heating and Ventilation Installations (BS 1553. Part 4 : 1956)

THIS STANDARD, price 3s. 6d., is Part Four of a series of British Standards for graphical symbols for general engineering. Graphical symbols are used extensively in the heating and ventilating industry and the symbols shown are based on what is considered to be the best British practice. The main use for such symbols is for plans for installations which are drawn on to architects' plans of buildings or of ships. Although this is the normal use for which the symbols in this Standard are intended they can also be used for schematic diagrams and for isometric drawings.

The symbols do not attempt to show all the detail which must in any case be given in a specification; for example, the type and method of operation of a valve. The symbols can, however, be used in combination to give a complete layout plan of the most complicated installations.

The standard is divided into six sections; the first four sections deal with heating and hot water supply; the last two sections deal with ventilating, air conditioning, dust and fume exhausting. The committee responsible for this standard have given much attention to the general conventions and symbols used for pipe work and duct work respectively, and it is expected that considerable benefits will result from the adoption of standard practice. A complete index of symbols is included.

Clay Lath (BS 2705 : 1956)

THIS standard, price 2s., has been prepared in order to provide minimum requirements for clay lath which is now being used as a basis for plaster finishes. The most useful sizes of sheet and roll are given together with minimum requirements for the strength of the mesh and the strength and adhesion of the clay pellets which are the key-forming feature of this type of lathing. The methods of test have, as far as possible, been kept to those which may be carried out by means of the equipment of any normal testing laboratory; and in particular to those tests for flexibility, one of the essential features of this type of lathing, that can be carried out quite easily on site.

Wood Stairs (BS 585 : 1956)

THIS standard, price 2s., has been revised mainly in order to make references to BS 1186, Part 2 for the quality of the timber and the workmanship. The opportunity has also been taken to change the dimensional sizes of the timber from nominal to finished sizes, which it is thought will make the standard easier to use. The stairs are for interiors of houses and are constructed of softwoods. The provisions of the standard apply to all such staircases except those with cut strings and give the proportions of steps and pitch, details of winders, headroom, and construction of handrails, as well as general finish.

Wood Trim (BS 584 : 1956)

THIS standard, price 2s. 6d., has been revised and new nomenclature introduced for the mouldings in order to bring it into line with one which will also be used by the English Joinery Manufacturers' Association, thus avoiding some confusion which has existed hitherto. A new size of architrave and skirting moulding, $\frac{3}{16}$ x $4\frac{1}{4}$ in., has been introduced, and modifications have been made to some of the profiles. The system of nomenclature mentioned above enables the sizes to be identified by the type letter and the succeeding number gives the key to the dimensions.

In mouldings having a sectional width of $2\frac{1}{4}$ in. and above it has been considered expedient to introduce a concave back, $\frac{1}{16}$ in. deep at the full depth of the curve, in order to give easier and better fixing with the minimum preparation of the ground to which the moulding is fixed. The standard contains designs and dimensions for architraves, skirtings, picture rails, internal door thresholds, cover strips, quadrants, half-round beads and scotias, and it gives the necessary requirements for quality of the timber.

Other Recent Publications

THE FOLLOWING have recently been issued by the British Standards Institution: Mild steel refuse storage containers (BS 1136: 1956) price 2s.; Varnished cambric insulated cables for electricity supply (BS 608: 1956) price 6s.; Concrete interlocking roofing tiles (BS 550: 1956) price 5s.; Concrete plain roofing tiles and fittings (BS 473: 1956) price 6s.; Cills and lintels (clayware, cast-concrete and natural stone) (BS 1236/40: 1956) price 12s. 6d.; Mastic asphalt for flooring (limestone aggregate) (BS 1076: 1956) price 3s.; White spirit (BS 245: 1956) price 6s.; Code of Practice for small domestic sewage treatment works (CP 302.100: 1956) price 5s.; Asbestos cement rainwater pipes, gutters and fittings (BS 569: 1956) price 10s.; Bromomethane (Methyl Bromide) (BS 2710: 1956) price 2s. 6d.; Cyclohexanone (BS 2711: 1956) price 2s. 6d.; Dependene (BS 2712: 1956) price 2s. 6d.; Glossary of terms applicable to roof coverings (BS 2717. 1956) price 5s.; Lead pipes for other than chemical purposes (BS 602: 1056) and lead pipes for other than chemical purposes (Silver-copper-lead alloy) (BS 1805: 1956) combined price 6s.

Copies of these standards are available from the Sales Branch of the British Standards Institution, 2, Park-street, W1.

TOWN PLANNING DECISION

Minister Upholds Kent CC's Reservation of Land for Maidstone By-pass

AFTER holding a local inquiry which lasted several days, the Minister of Housing and Local Government has announced his decisions on two proposals by Messrs. A. E. Reed and Co., Ltd., regarding the use of land at Aylesford, Kent.

The Minister has dismissed the company's appeal against the Kent County Council's refusal of planning permission for the erection of dwellings on land at Twelve Acres, Aylesford. The council had refused permission on the grounds that the site is traversed by the proposed route of the Maidstone and Ditton By-pass.

The Minister has also refused permission for the erection of a central laboratory building to deal with the Reed Paper Group's research, technical and development activities on land at Station-road, Aylesford. This application was addressed to the Malling RDC, but the Minister exercised his right to "call it in" for decision by him.

These decisions are announced in a letter from the Ministry to the company's representatives. The letter states: "He (the Minister) understands that the Minister of Transport is giving further consideration to the idea of a central road which was suggested by your clients. Until a final decision is reached, however, the Minister is satisfied that it would be wrong to prejudice the line of the by-pass as at present proposed by allowing the development in question."

This is a reference to a suggestion made at the local inquiry that instead of having separate by-passes to Maidstone and the Medway towns, one central motor road should be constructed.

PLANNING PROBLEMS FACING DEVELOPERS

Effects of Recent Decisions

WHEN a builder wants to develop land where there is not a sewer then it is interesting to study recently decided planning cases to find the considerations that are before the Minister. The decisions chiefly seem to centre in Kent. An appeal was lodged in respect of the refusal of the Kent County Council for the erection of a detached bungalow on land at Granby Farm, Bridgewood, Bluebell Hill. The Chatham and District Water Board indicated that there was a risk of pollution if the development was permitted in view of the fact that cesspool drainage would have to be used.

The Minister, in giving his decision, said that although individual proposals were relatively innocuous each such proposal increases the risk of pollution. In his view the danger cannot be entirely eliminated by the operation of building by-laws while cesspools are used and he did not consider that the powers of the water authority under S.18 of the Water Act, 1945, gave a satisfactory means of dealing with the problem.

In a recent case where the Minister was proposing to reverse a local authority decision made in 1948 when a claim for compensation was put to him, he altered his decision without an inquiry after hearing the views of the parties and the representatives of the Water Board on the risk of pollution. More recently, however, in an appeal in the Maidstone area where the risk of pollution was perhaps not emphasised, the Minister allowed the appeal, pointing out that it was not a matter for planning to distinguish between cesspool and other forms of drainage. This seems to indicate that the possibility of pollution may be the deciding factor and the views of the local water board might be investigated before making proposals.

Another interesting planning point has arisen from a decision by the Minister that a condition that development should be carried out within three years is unenforceable. It would appear to follow that where an outline consent for building is granted, a condition that the plans, etc., which are required still to be deposited under the terms of the outline consent must be submitted within three years is equally unenforceable. Some five years ago a condition to that effect was suggested by the Minister. If it cannot be used, planning authorities may be faced with a number of outline consents which are still outstanding.

Another interesting point which arises, under S.20(4) of the Town and Country Planning Act, 1954, is this. If one of the reasons for refusal is that the application is refused on the grounds of danger of subsidence or flooding or that it is premature by lack of services, the claim for compensation is barred. If, however, there is an appeal and the Minister upholds the appeal, but does not give as his reason for upholding it the fact that it is dangerous or premature, is the claim for compensation barred? In a recent case the Minister seems to have decided the point by calling the case to himself for an original decision than by appeal.

The Builder Review of PLANT & MATERIALS

Fabric Laying

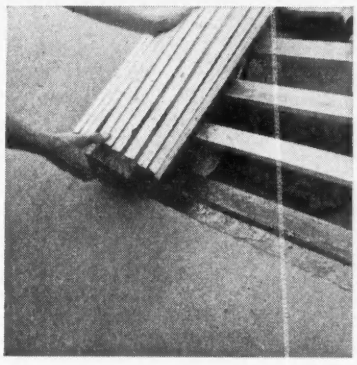
A NEW method to experite the laying of reinforced concrete paving for roads and runways has been devised by the British Reinforced Concrete Engineering Co., Ltd., in co-operation with John Laing and Son, Ltd. It takes the form of a simple machine called a "Fabric Layer" which consists of a series of prongs or skids which place the fabric reinforcement in the concrete, allowing the correct amount of cover. This runs along the rails provided on site for the mechanical concreting plant, and is propelled by this unit, the prongs being withdrawn at the same time as the concrete is laid. The full depth of concrete is laid in one operation, obviating the necessity for stirrups or spacers. The fabric reinforcement, supplied in sheets assembled on site, is passed over the guides and on to the skids, being located in the concrete in the form of a continuous mat.

Transparent Paint

A new transparent paint with a pearl finish to make colour-matching simple, has been introduced by Sissons Brothers and Co., Ltd., Bankside, Hull. Walls, ceilings, doors and windows can now be painted together in matt colour. For woodwork, the new colourless paint can be used on top. This simplifies the matching of colour-schemes as there is no longer the problem of finding a gloss paint to match a shade chosen for the walls. Called "Siscoglow," the new paint is designed for use with "Siscomatte" rubberised paint and dries to the touch in two to four hours, hardening to give a durable and washable surface. It is not a varnish, and does not pick up finger marks. The company will supply decorators with free sample tins of both "Siscoglow" and "Siscomatte" as well as a tint book upon request.

Asbestos Cement Roofing

A novel type of washer for use fixing asbestos cement sheets has been introduced by the Universal Asbestos Manufacturing Co., Ltd., Tolpits, Watford, Herts. Known as the "Uniseal" washer, it is made from a rubber and bitumen compound, ⅛ in. thick, having a soft cushioning effect to overcome any inequality in the metal washers. Under pressure, they close round the neck of the bolt and adhere tightly to the sheeting. Laboratory tests are understood to have shown that they have a greater resistance to water penetration than ordinary felt washers.



The Evers "Rol-On" battened roofing has already gained great popularity in Sweden, and is now being marketed in the UK by Holcon, Ltd., 4, Drapers-gardens, EC2. It comprises a good quality roofing felt which has wooden battens fixed on one side and a mineral dressing in shades of red, green or grey on the other. The battens are 3 in. shorter than the width of the felt, which allows a 3-in. overlapping joint to be made. The roofing weighs only about 12 lb. per sq. yd., and is supplied in rolls of about 81 sq. ft. Roofing felt of the same quality and colours, but with battens, can be provided for use as flashings.

Oil-fired Units

Two new automatic "Oilheat" units have been placed on the market after wide use in America by Henry Wilson and Co., Ltd., Kirkby Trading Estate, Liverpool, who are producing them under licence from the Aldrich Co., of Wyoming, Illinois. One, an oil burner unit, operates on a pressure jet system designed to convert existing solid-fuel boilers, and can be easily serviced by withdrawing the nozzle assembly without dismantling the whole apparatus. The model operating on medium oil has a system of pre-heating and re-circulation with delayed firing, so that oil cannot leave the nozzle before reaching the required temperature for atomisation. Combustion is, therefore, instantaneous—preventing any possibility of a blow-back. The automatic oil-fired boiler burner units (claimed to be 80 per cent. efficient) are supplied with a cast refractory chamber already in position so that no labour is needed for assembly. They can be used for hot water supply; gravity and forced circulation central heating; or low-pressure steam installations, and are made in ratings of from 118,000 to 808,000 BTUs.

Strip Heating

A form of strip heating for overhead use in factories and industrial buildings has been developed by the Brightside Heating and Engineering Co., Ltd., of Sheffield. Known as the "Brightrad" system, it consists of unit lengths of pressed steel sections of 10 in. overall width, recessed along the longitudinal axis to the contour of 1¼ in. nominal bore tubing. When fitted end-to-end and attached to the underside of a horizontal run of pipe, they form a continuous narrow heating panelling. The heating medium in the pipe can be either hot water or steam.

Wallboards

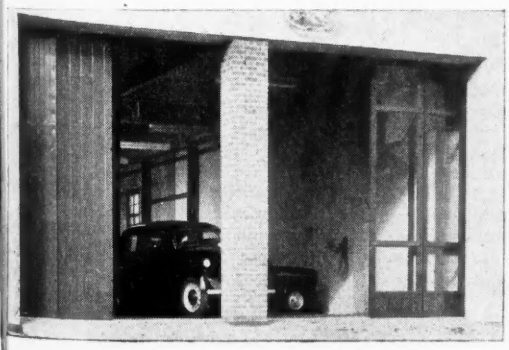
The "Upson" range of wallboards has now been reintroduced to the market after a lapse of several years due to the war and import restrictions. Of this, the "Strongbilt" panel is understood to be both waterproof and non-cracking, and of particular interest is the "Striated" panel, comprising seven plies compressed to a full ¼-in. in thickness, with a surface that may be stained, painted or used in its natural state. The "Eighty-Eight" pattern has an attractive pebbled finish, and is available in several alternative colour surfaces. All the panels are supplied in a standard stock size of 8 ft. by 4 ft.

Floor Surfacer

The latest model of the "Eureka" floor surfacer produced by John Gregory (Nelson), Ltd., Norfolk-street, Nelson, Lancs, is specially designed for durability, and each bearing is fitted with a grease nipple—a grease gun being supplied as standard equipment. All wearing parts are interchangeable, and the high-speed steel blades in the 12-in. wide cutter block revolve at a high speed and can be adjusted to give a light skim or a heavy cut. Provision is also made for adjustment of the trailing wheels. The petrol-engined model is drilled for switch-box and provided with cable brackets so that it can be converted to motor drive if required, and where electric current is available the machine is supplied with a 2-hp repulsion-induction motor and 75 ft. of triple rubber-sheathed cable. The depth of cut and pressure can be easily varied, and the machine is suitable for levelling down new or old floors in preparation for polishing.

Metallised Silver Handles

The range of cabinet handles marketed by Healey Mouldings, Ltd., Wolverhampton-road, Oldbury, Worcs., is now available in metallised silver, a finish produced by high vacuum metallisation. The effect is of silver rather than of chrome, and the handles



The "Esaround" top-suspended doors, recently added to their range of folding and sliding doors by Esavian, Ltd., 181, High Holborn, WC1, are claimed to take up minimum space when open. Built from strong sections of fluted aluminium, there is practically no maintenance needed, and the doors can be supplied glazed or unglazed to a maximum height of 16 ft. and to any width. The illustration shows these doors fitted to the garage of Verulam Motors, Ltd., at St. Albans, Herts, designed by Hopson, Hill and Partners, AA.RIBA.

are understood to resist rough usage better than the normal chrome-plated casting and to remain bright without the need for cleaning with abrasive polishes. The process is also less expensive than chroming, so that the finished product can be marketed at a very competitive price.

Portable Compressor

A new model to their range of portable compressors has been introduced by Atlas Copco, Beresford-avenue, Wembley, London. The "250 Monobloc," as it is known, gives a free air delivery of 250 cu. ft./min. and is based on actual operating experience gained with their HR4V compressor. It is built on the monobloc principle with a two-stroke diesel engine having no valves, and a double-acting compressor of the crosshead type.

Concrete Placing

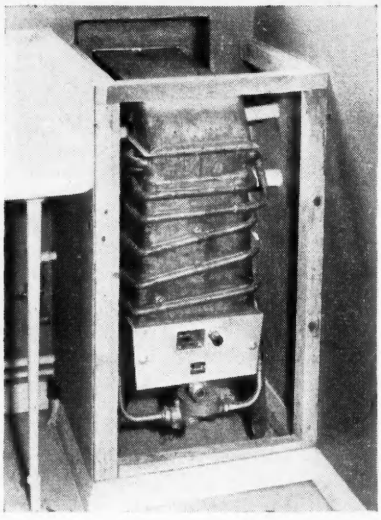
A new pneumatic concrete placer has been placed on the market by Blaw Knox, Ltd., 94, Brompton-road, SW3. Its operation is simple and does not require skilled labour, and the unit will transport concrete mix 1,000 ft. or more horizontally, or over 100 ft. vertically. Output can be controlled to specific requirements, although the unit will convey up to 35 cu. yd. of concrete per hour through a 6-in. pipeline direct to placing point. All normal mixes can be handled, as well as high and low slump concrete with a maximum size of 2-in. aggregate. Quick-acting couplings with rubber seatings permit fast assembly or dismantling of the pipeline, and the discharge box separates concrete and air to ensure smooth delivery and a clean flow of concrete to narrow forms and inaccessible places. Blaw Knox, Ltd., have also just introduced a new range of Cleanline "Rex" concrete mixers which can be supplied with hydraulic weigher and skip loading attachments.

Slotted Angle

A heavy industrial angle made from 10-gauge hot rolled steel has been added to their range by the Supaslot Angle Co. (GB) Ltd., Broadway Chambers, 40, Broadway, SW1. Measuring 1½ in. by 1½ in., this heavy angle is exceptionally strong and suitable for buildings, roof trusses and racking for heavy loads. It can be supplied in red oxide finish or in polychromatic grey. Another slotted angle introduced to the range is the 1½ in. by 1½ in. "Minor" of 14 gauge. This product is more suitable for normal racking or shelving, for which the manufacturers are making a 36-in wide direct bolt-on shelving, varying in depth from 12 to 30 in.

Compaction Rollers

The manufacture of compaction rollers for use with heavy crawler tractors has now been entered into by Onions and Sons (Levellers) Ltd. Two types of rollers are produced, the sheepsfoot and the rubber-tyred compactor. The sheepsfoot "Compacta" roller is produced in one size, a normal arrangement comprising two individual units joined by articulated joints. Other arrangements with one, three or four individual units are available, and facilities for water and/or sand ballasting mean that ground pressure can be adjusted from 330 to 920 lb./sq. in. The rubber-tyred compaction rollers are produced in two sizes, each comprising a group of independent units enclosed within a rectangular yoke. These yokes can be adjusted by spacing bars so as to accommodate three to six independent units. The distributors are Jack Olding and Co., Ltd., Hatfield, Herts.



To help solve the problem of built-in heater installation in small kitchens, technicians of Ascot Gas Water Heaters, Ltd., 255, North Circular-road, NW10, have devised a method of installing an Ascot 715/1 "balanced flue" multi-point gas water heater under a kitchen draining board. The need for maximum window-space, and the central situation of the sink beneath the windows often means that the only remaining exterior wall space cannot accommodate a conventional built-in gas water heater without being structurally weakened. Ascot's method obviates this problem, and means that fewer variants can occur during installation. Detailed drawings of this method are now available from the company.

Textured Concrete

The use of figured rubber sheeting to produce special finishes on concrete is on the increase: the method used being to lay a sheet of figured rubber in the casting frame, pour the concrete mix into the mould and vibrate as usual. When set, the frame is removed and the rubber sheet peeled away from the face of the concrete block to leave an exact impression of the figuring. A wide variety of designed rubber sheets is now being produced by the Runnymede Rubber Co., Ltd., 6, Old Bailey, EC4, in various thicknesses according to the work required, the maximum size of a sheet being 6 ft. by 3 ft. Specially cut sizes to fit existing moulds are produced, while the larger sheets may be used for in-situ work.

Strong Stripper

An improved paint stripper called "Double Strength Meltic" has been produced by Lewis Berger, Ltd., Homerton, E9, which can be used for stripping stove enamels, cellulose, bitumen, varnishes and other paints. It is understood not to inhibit drying or impair the adhesion of subsequent finishes, nor to need neutralising or washing down with solvents since it does not contain large quantities of wax. Washing with plain water is all that is required, making it suitable for use on plaster, wallboards and concrete.

TRADE NEWS

Restrictive Practices

A recent report by the British Straddle Carrier Co., Ltd., 7, Chesterfield-gardens, Curzon-street, W1, points out that the majority of their "Timber Wolf" and "Steelmaster" carriers are having to be exported because of the limitation of their sale in this country by restrictive practices. The report states that, coupled with the costly and antiquated methods of materials-handling still existent in some of our ports and factories, the fact that most of the present production is going abroad will make it increasingly difficult for firms here to compete with America, Western Germany and Japan in world markets. However, it is thought that although port authorities and industrialists are in favour of using the most labour-saving equipment available, they are not prepared to spend capital on new equipment unless the workers' unions will agree to accept these devices, which would increase the rate of discharging vessels by more than 50 per cent. and eliminate high demurrage charges. Assurances would also have to be given that the men themselves would operate the equipment, otherwise there is a possibility that the carriers would remain idle because of a mistaken belief that the workers would face unemployment by accepting them. The makers feel that this is probably the reason why there are no such carriers operating in London Docks, and few in others.

Concrete Admixtures

A paper on "Plasticisers and Air Entraining Agents for Concrete" presented by M. M. Duriez, Chief Engineer for Bridges and Roads, France, in 1953 at the Hall of the Federation of Buildings, Paris, has now been translated and published, free, by Sika, Ltd., 82 Victoria-street, SW1.

Roofing Repairs

The booklet on "Slating and Tiling" issued by Langley, London, Ltd., 163, Borough High-street, SE1, has now been revised and contains useful data on the repair and maintenance of roofs. The original text was by Mr. C. G. Dobson; the drawing being by Mr. John Tingay.

Heating Equipment List

About 600 modern open fires, heating stoves, cookers and boilers using coal, coke and other smokeless fuels are included in the list of recommended domestic solid fuel appliances published by the Coal Utilisation Council, 3, Upper Belgrave-street, SW1, and the Solid Smokeless Fuels Federation. All the appliances included comply with prescribed standards of efficiency and the majority are capable of burning smokeless fuels.

Australian Agreement

An agreement has been signed between Mr. Paul A. Morawetz, managing director of Tip Top Paints (Australia), Ltd., and Mr. P. Edwards, managing director of Denton Edwards, Ltd., Barking, Essex, securing the sole rights for the first company to manufacture and sell "Dentolite" self-sterilising paint in Australia. This paint, throughout its entire life, is understood to destroy all bacteria or spores deposited on it, and to be quick-drying and odourless.

THE CLADDING OF BUILDINGS

Mr. Edward D. Mills's Address at the RIBA

AT the Royal Institute of British Architects on March 20 MR. EDWARD D. MILLS, FRIBA, gave a paper on "The External Cladding of Buildings." The following are extracts from his paper:—

With the advent of the framed structure in steel or reinforced concrete, the cladding of buildings has assumed a new importance. When buildings relied upon their external walls for structural stability and the loads of floors and roof were carried by the external walls, the range of materials for this purpose was limited to those which not only provided a weatherproof exterior of good appearance, but also possessed sufficient strength to carry the calculated loads. With the development of the framed building the external cladding became non-structural, because loads were carried not by the walling but by the framework.

In spite of this new freedom few of the earlier framed buildings employed a non-structural cladding and the traditional materials of brick and stone were used in the traditional manner in spite of the fact that their primary function was protection against weather. Even today the vast majority of framed buildings are clad with walls of brick or stone which are considerably stronger than they need be, and which add very considerably to the load to be carried by the building framework and foundations.

The development of new cladding techniques and the general appreciation of the advantages to be gained from lighter claddings have made the range of materials available for this purpose very much greater. Not only are new materials available but experiments have shown that traditional materials can be used in new ways, so that their special merits can be exploited.

Before discussing some of the more important cladding techniques and materials it is essential that the functional requirements of the cladding to a framed building should be briefly considered. We have already seen that structural strength is of less importance in the cladding of a framed building than other characteristics, but it must be remembered that traditional, load-bearing walls, because of their thickness, usually automatically solved many of the problems such as weather resistance, permanence and freedom from thermal movement that we encounter with lighter non-structural claddings.

Weather Resistance

With non-load-bearing claddings one of the primary problems is weather resistance, particularly in tall buildings exposed to the elements. The prevention of moisture through the external walls of any building is always a problem of importance. If we have an impermeable surface we need a perfect joint, which is difficult both to make and to maintain.

Joints in any cladding system are a troublesome problem for thermal and structural movement can cause change of size in the unit members and open up paths for moisture penetration. If no special precautions are taken, movement of 1-in. in 150-ft. can be expected as between summer high temperatures and winter low ones, and if we do not provide for such expansion nature will deal with the matter for us. On a tall building temperature differences between the top and bottom storeys will further complicate the issue.

Higher heating standards in modern building demand better thermal insulation for the sake of economy, and if our non-traditional cladding materials do not have a low thermal capacity in themselves, insulation must be provided as an integral part of any cladding system or be closely related to it.

The accumulation of grime and the gradual discoloration of many traditional buildings in a comparatively short time, particularly those in our polluted city atmosphere, is often politely referred to as "natural weathering," and on some building this kindly action of the elements, gradually obliterating the architect's cruder details, is to be welcomed. With non-traditional materials this action of smoke, weather and time cannot be so easily explained away: it is obvious to all as deterioration and decay, resulting often in physical breakdown and failure.

Materials chosen, therefore, for the forms of non-traditional cladding we are discussing, must be permanent both in colour and texture, and where they can collect dirt and grime they must be capable of easy cleaning and maintenance.

Time and Cost

The permanent concern of architects and clients is the ever-rising cost of buildings and the length of time needed for their completion. The cladding used for a building can influence the cost to a considerable degree. We are continually being reminded, and rightly so, that the conventional 11-in. cavity wall costs in the region of 5s. to 6s. per sq. ft. If alternative non-traditional cladding techniques are to become a permanent feature of our architecture, the question of cost must be tackled seriously. This is where manufacturers can help.

On the credit side lighter wall claddings require less framing material, lighter foundations and are easier to erect. On the Aluminium Company of America's office building in Pittsburg, USA, the use of an aluminium panel cladding reduced the weight of the structural steel frame to half that of a conventionally clad building, giving a saving of 10,000 tons of steel.

Speed of building and the reduction of site labour is also of great importance and here again non-traditional cladding can show useful results. The precast concrete panel cladding systems originally devised by the Hertfordshire County Council's architect played an important part in the speedy erection of that authority's schools, being appreciably quicker than normal brickwork.

Cladding of the kind under discussion must necessarily have a considerable influence on the aesthetics of our buildings. Traditional styles and forms cannot be successfully duplicated in structures clad in precast panels, metal panels, sheet materials or curtain walls of metal and glass. The non-structural nature of the cladding employed must of necessity be expressed in the architectural form of the building, whether the cladding is in the form of an "overcoat" wrapped around the structural frame, a panel system from floor to floor, or a non-structural infill to a cellular box frame.

Great care is needed in the design of buildings of this nature, quite apart from the need for careful solutions to technical problems. A whole street of Lever Buildings could become monotonous, and the building which may look superb through the lens of the *Architectural Review* photographer's camera in the right sort of weather is sometimes merely dull when the sun is not shining from the right quarter.

Leaving these general comments which concern, at least in part, all forms of non-traditional wall cladding, it is essential that the three main lines of development in the cladding of buildings should be considered in greater detail.

Types of Cladding

Natural stone is one of man's oldest building materials. From early times until the present its attractive appearance, enduring qualities and strength have made it an essential part of our architectural heritage. The rising cost of quarrying, transport and building labour, together with the weight and slowness of traditional stone construction is, however, rapidly forcing it out of the category of economic building materials. If it is to retain a place as a cladding for contemporary buildings, new ways must be found of employing it. As a thin slab cladding natural stone still has a considerable future, as a number of Continental buildings prove.

Passing to light cladding, the most important development in this field has been the emergence of the curtain wall, with such buildings as the United Nations Secretariat and the Lever Building in America providing large-scale experiments. Curtain wall systems generally consist of lightweight cladding materials held back to the structural frame of the building by means of an independent framework of wood or metal.

Considering first the materials available for the infilling panels, a wide range is already available, and most meet the demand that they should be tough, durable, light in weight, colourful and rigid. The list includes glass, either plain or wired; heat absorbing glass; multi-pane glazing units, and coloured stove enamel glass; asbestos cement painted, mineral surfaced or veneered with an aluminium skin; resin bonded plywood, plastic sheet, stainless steel, aluminium and stove enamelled metal sheets. Glass has obvious merits, it is easily cleaned, providing the proper facilities are provided, and both the stove enamelled

variety and the multi-pane units with a centre membrane of coloured glass fibre offer a wide range of textures and colours.

At this point a brief mention must be made of the use of mastic in curtain walls. It is unwise to assume that mastic is the answer to every jointing problem, however it is employed. It has a definite place if it is used with care and intelligence. Briefly, it should be protected from the weather to reduce oxidation, and should be considered primarily as a second line of defence. It should never be used in a load-bearing capacity and should be of adequate size to take up movement and allow for oxidation. Consultation between manufacturer and user is of vital importance.

The final category of cladding considered very briefly is sheet cladding. Asbestos cement sheeting fixed to cladding rails has long been an accepted industrial technique of cladding. Although a range of assorted patterns is available, what is badly needed is a coloured asbestos cement sheet with a reliable secret fixing system and a carefully detailed set of accessories for corners, cills, eaves and similar positions. A number of very carefully designed German buildings have been clad with asbestos cement sheeting.

Thus we can see that new methods of cladding buildings and the old and new materials employed can give us colourful and exciting buildings, if we take the trouble to study our materials and techniques and learn how they work together. The problems may seem difficult, but if such techniques appear to be logical architectural devices, we must settle down and work them out properly. I believe the result will be more satisfactory and economical buildings and lively worthwhile architecture.

1956 Production Exhibition

USE OF RESEARCH

MR. IAIN MACLEOD, Minister of Labour and National Service, is to open the 1956 Production Exhibition to be held at Olympia from May 23 to 31. Sir Leonard Lord, KBE, President of the Institution of Production Engineers, will be president of the exhibition.

The main sections will cover: scientific research; training and education for management and employee; work study; standardisation; manpower; new methods of manufacture; aids to production; automation; materials and metals; design for production; and trade and technical Press.

Under these broad headings exhibitors are to show how they make use of research, how their products can be used to speed production, or ways in which increased productivity has been achieved in their own works. The exhibition has the support of the Government and of the major bodies concerned with improving production. On this occasion the Trades Union Congress are exhibiting and the European Productivity Agency will display their activities throughout Europe.

The conference of the Institution of Production Engineers is to be held in the exhibition. Its theme is the direction of investment into the most appropriate channels leading to higher productivity.

BRITISH INDUSTRIES FAIR

Review of Exhibits

THE 1956 British Industries Fair opens at Castle Bromwich and Olympia, London, on Monday, April 23, and will remain open until May 4. A wide selection of products will be featured in the trade sections, the building and heating, engineering, hardware and outdoor sections being situated at Castle Bromwich. A review of some of the principal exhibits of interest to the building industry is given on this and the following page.

CASTLE BROMWICH

Plant and Equipment

A comprehensive range of spray painting equipment, including portable and stationary air compressing sets and two typical water washed spray booths of alternative bench types is to be exhibited by **Aerospray Associated, Ltd.,** 179-213, Thimble Mill-lane, Birmingham, 7. An item of interest is the firm's new simplified spray painting traversing unit which incorporates a simple type chain. Operating parts are kept to a minimum with the result that maintenance is reduced. The new " Duplex " equipment for the application of polyester resins is to be displayed. This incorporates a double-headed spray gun with a special dual-feed container. Also to be shown is a stationary water-cooled 1 h.p. compressing set, and a CP15 portable compressing plant powered by a Lister 3 h.p. diesel engine. (Stand D, 734.)

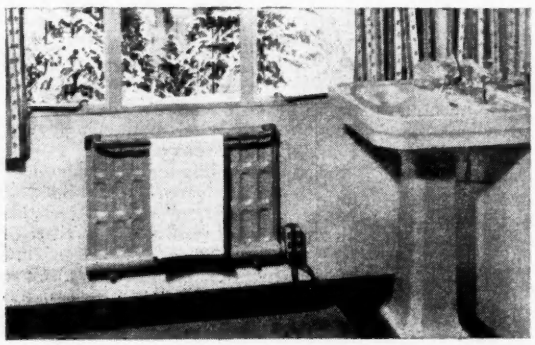
A complete range of stationary and portable " Hydrovane " compressors, both petrol engine and electrically driven, with a capacity ranging from 3 to 250 cfm per unit, will be featured by **Alfred Bullows and Sons., Ltd.,** Long-street, Walsall. A display will be devoted to their spray painting plant, and also to their range of spray guns and painting equipment. A special feature will be a two-gallon pressure paint container, with the shell of its container (as well as the cover) in the form of a high tensile aluminium alloy diecasting, to save weight and give a smooth surface both inside and out. There will be a 15-ft. waterwash spray booth running under working conditions, together with a range of pressure containers, air motors, reducing valves and filters. (Stands D, 743 and 642.)

Their wide range of aluminium ladders will again be exhibited by **Gravity Ladders, Ltd.,** Pickford-street, Birmingham, 5, ranging from one-tread seat-topped kitchen steps to 45-ft. triple extension ladders. Of particular interest will be the 180 aluminium loft ladder, which folds up out of sight inside the loft door when not in use, and slides down into the ready position as soon as the loft door is opened (with a hooked opening pole supplied for the purpose). (Stand B, 54.)

The newly formed company, **MEO, Ltd.,** 251 Brompton-road, London, SW3, will display on its stand a range of Rotolift pumps, compressors and lifting tackle. There are two types available of Rotolift, high-head, low-flow pumps. Designed primarily for pumping water, they are equally suitable for pumping heating oils and the like. Both kinds are portable. Two models are also available of portable compressors. Model A is recommended for pneumatic apparatus while model B is more suitable for paint and disinfectant spraying. In the range of lifting and pulling tools three sizes are available with capacities of three-quarters, one and a half, and three tons. They can be handled by one man and have an auxiliary mechanism which is moved by the handle which disengages the self-sustaining brake when raising or lowering. (Stand D, 351.)

Three new products are to be shown by the **Morgunite Cement Gun Co., Ltd.,** Sedgemoor-lane, Flackwell Heath, Buckinghamshire. The first is a spraygun which will apply a cement roughcast, Tyrolean finish and can be used from a ladder. Secondly, there is a spraygun which is used for spraying cementitious materials requiring a flat finish. It is useful for renovating existing Tyrolean and roughcast finishes, and will limewash large areas quickly. A range of " Gunite " equipment will be shown which can be used for spraying a large variety of materials previously considered impossible to apply by this process. The material mixes outside the gun, the dry material having first been placed in the gun hopper, and the liquid in a static container. (Stand B, 608.)

A quick, clean method of storing and handling grease is understood to be offered by the Nubrex " Mes-Les " cartridge side-lever grease gun, to be exhibited for the first time by **C. J. Neuman, Ltd.,** 445 Brighton-road, South Croydon, Surrey. Instead of the gun having to be filled by hand or pump, cartridges of grease are supplied which can be easily inserted. Each cartridge will supply 300 shots of grease, being priced at 1s. 6d.



The unheated detachable chromium-plated towel rails supplied by Dimplex, Ltd., 17, Shepherd-street, W1, have been redesigned to provide greater hanging space, and can be supplied single- or double-sided. Prototypes of two new products —a permanently oil-filled electric towel rail and an oil-filled electric airing cupboard heater —will be featured, as well as a selection of oil-filled, thermostat-controlled, electric radiators. Two new pressed steel frost-proof water radiators with heating surfaces of 12½ and 17½ sq. ft. will also be on view. (Stand A, 74, Olympia.)

each. Also on show will be the Nubrex Mark 803 " economy lubricator " introduced last year, which can now be converted into a filler pump by inserting a filler valve adaptor between its handle body and hose assembly. To adapt the grease gun for automatic loading, the plug or filler nipples are removed, and a special self-opening and sealing filler nipple inserted. Other models on show will include a high-pressure tractor lubricator adapted to deal with very heavy fibrous greases, and also volume buckets for handling grease both at high and low pressures. (Stands 1205 and 1104, Outdoor.)

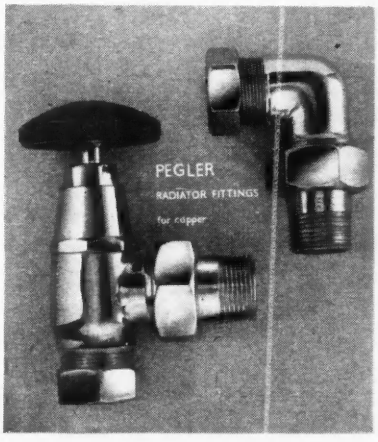
Structural Components and Materials

The wide range of plastics materials made by **Bakelite, Ltd.,** 12-18 Grosvenor-gardens, SW1, is to be on display; the materials shown for the first time including polyethylene, and syntactic foams, while examples of " dipping," a new technique using polyester resins for protecting electronic and other components against humidity and corrosion (or for insulating them) will also be on view. Syntactic foams are low density structural materials which can be used for thermal insulation, or where rigidity and reasonable strength is required without incurring an excessive weight penalty. They can be moulded into shape, trowelled on to suitable surfaces, or forced into cavities, as well as pressed in sandwich core constructions. Examples will be shown of polyethylene pipe for various purposes, including domestic cold-water services, where it will not burst under conditions of extreme frost. (Stands C, 404 and 505). Some of the firm's products are also being shown at Olympia (Stand C, 73-79).

Displayed on the stand of the **Dunlop Rubber Co., Ltd.,** St. James's House, St. James's-street, SW1, will be the applications of a new material with probably the longest name in the history of the British Industries' Fair. " Polytetrafluoroethylene " (PTFE for short) is understood to be specially useful as a covering for rollers, and can also be supplied in mouldings and machined items. It will maintain, within a wide temperature range, exceptional chemical inertness, high electrical insulation and a non-stick surface structure. Among other exhibits will be a selection of flexible pipes; conveyor, transmission and elevator belting; anti-vibration mountings, mats and couplings; as well as " Fortiflex " bins, etc. (Stands, 623 and 522).

A complete range of fixing devices and tools will be shown by the **Rawlplug Co., Ltd.,** Cromwell-road, London, SW7. Demonstrations will take place, and this year two demonstration benches will be in operation, where visitors can watch any device or tool being used and try them for themselves. A special display is to show a greatly enlarged and exploded view of the two types of " Rawlbolt," which will be shown with the new " Universal " shield. Also on display will be a drill made by the firm for use where masonry is concerned, known as the " Durium " masonry drill, suitable for a wide variety of masonry boring jobs, and which can be used in brick, tiles, marble, stone and terra-cotta. (Stand C, 725/626.)

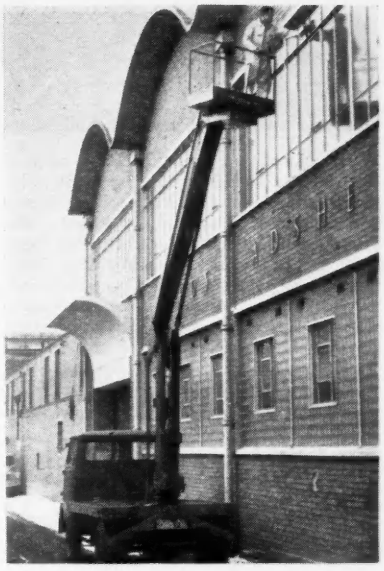
The "Supadrive" hand-operated tool introduced by F. H. Bourner and Co. (Engineers) Ltd., Manor Royal, Crawley, Sussex, is a small hand tool for driving nails or threaded studs into brickwork or the softer concretes with an ordinary 4-lb. hammer. It incorporates a means of holding the nail so that it will not be bent during driving, and at the same time protects the wall from damage. Also shown by the firm will be the Mark 3 model of the "Supadynamic" cartridge-operated tool, with a new selection of ⅜ in. pins in addition to the normal range. (Stand D, 744, Castle Bromwich.)



A range of forged brass radiator valves and unions (sizes ½-1¼ in.) in both angle and straight patterns are to be exhibited by Peglers, Ltd., Belmont Works, Doncaster, Yorkshire. They are jointed for the first time by patterns with integral "Prestex" copper ends, so that copper plumbing can be done more neatly and at lower cost. The firm's usual wide range of plumbers' and engineers' brasswork will be featured, such as sink mixers, valves and taps, including self-closing non-concussive taps which will adjust themselves to 100 lbs. sq. in. For export buyers there will be a section devoted to faucets and combination fittings designed for plumbing layouts found in the Americas. (Stand B, 421, Castle Bromwich.)

Services and Fittings

A broad selection of fans and industrial gas apparatus will be shown on the stand of **Keith Blackman, Ltd.,** Central House, 75 New-street, Birmingham, 2. Exhibits include a special display of fume removal fans all with solid, rigid pvc castings and impellers. A second display concentrates on five fans from the standard range available from stock. It includes the three-bladed type APA propeller fan for general ventilation purposes; the N.00 blower for air supply to oil-fired furnaces; the " Keith " type centrifugal fan for forced draught to boilers, and also for fine dust and fume removal; the medium pressure blower for forced draught to solid fuel furnaces, drying and cooling; and the " T " series dust exhausting and collecting fan unit. The third principal display concerns a selection of the firm's industrial gas apparatus. (Stand D, 726.)



A smaller model of the hydraulic platform introduced last year by Simon Engineering (Midlands) Ltd., Queens Cross, Dudley, Worcs., will be shown for the first time on their stand. This gives a maximum working height of 30 ft. and a radius of 17½ ft. (as opposed to 40 ft. and 26 ft. on the standard model) and can be mounted on a 3-ton commercial chassis and used in places too cramped for the standard model. With outrigger jacks in position, the maximum platform load is 500 lbs. (Stand 1312, Outdoor, Castle Bromwich.)

Among the range of " Hemo " cabinet ware to be exhibited by **Healey Mouldings, Ltd.,** will be a selection of well-styled cabinet handles, available in a variety of colours and designs. Their moulded " Holloware " fittings will also be represented. (Stand B, 505.)

OLYMPIA

A variety of " Magicoal " and " Berrylog " fires will be shown by **Berry's Electric, Ltd.,** Touchbutton House, Newman-street, W1, ranging from a period reproduction grate selling at over £100 to a tiny log fire for use in centrally-heated apartments where only the glow is wanted. There will be a wide selection of both period and modern patterns, including several additions to the current range. Radiators will include the built-in " Mistoberry " with double lighting, and the full " Raydair " range. These background heaters are now available as free-standing or wall-mounting models, with or without variable thermostatic controls. Lighting fittings shown will follow the periods of the fires through hewn oak, wrought iron and gilt chandeliers to contemporary furnishing. The water heating section will include immersion heaters from 11½in. to 36in., as well as storage heaters, flat backed and flush fitting. (Stands A, 44 and 48.)

The Builder

CURRENT PRICES OF MATERIALS

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intention that the details given should indicate fair average prices of materials, not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. Due to the exceptional circumstances now prevailing it is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	5	6
Pit Sand	,,	1	2	11
Washed Sand	,,	1	6	1
¾ in. Shingle	,,	1	2	5
½ in. Broken Brick	,,	1	0	0
Pan Breeze	,,		10	3
Fine or Coarse Foamed Slag Aggregate	per ton	3	0	9
2 yds. of fine and 2.6 yds. of coarse per ton				

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.				
6-ton loads and upwards, site	per ton	5	1	6
1 to 6 tons, site	,,	5	13	6
Rapid Hardening Cement in 6-ton loads and upwards to site	,,	5	12	0
1 to 6 tons do. site	,,	6	4	0
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.				
Red, Buff or Khaki Colorcrete in 6-ton lots ...	,,	7	18	0
Other colours according to colour.				
In 4-ton lots from 295s. 0d. to 685s. 0d. per ton.				
White Portland Cement	,,	13	2	0
Under 1 ton	per cwt.		15	7
417 Cement (Ultra Rapid Hardening) in 6-ton lots and upwards	per ton	6	14	0
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £11 5s. 0d. to £14 0s. 0d. (1-ton loads and upwards).				
Lightning and Ciment Fondu Brands High Aluminous cement, 6-ton lots and up	,,	14	8	3
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	,,	6	12	9
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1	10	0

BRICKS

		£	s.	d.
Full Loads.				
First Hard Stocks	per 1,000	11	17	0
Second Hard Stocks	,,	10	16	0
Mild Stocks (Kiln Burnt)	,,	9	1	6
Mild Stocks	,,	8	16	6
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.				
2½ in. Nominal Fletton Bricks to sites in W.C.				
District Commons	,,	5	13	0
Cellular do.	,,	5	13	0
Keyed do.	,,	5	15	0
Rustics	,,	6	18	0
Cellular Rustics	,,	6	18	0
Single Bullnose Commons	,,	6	13	0
Sandfaced	,,	7	13	0
Tuscans	,,	8	8	0
Saxons	,,	8	16	0
Golden Buffs	,,	9	3	0
Best Blue Pressed Staffs (London Stations)	,,	27	5	6
Do. Bullnose (London Stations)	,,	27	19	6
Blue Wire Cuts (London Stations)	,,	24	14	0
Midhurst Lime Bricks (London sites)	,,	10	8	0
Uxbridge Whites (London sites)	,,	9	17	0
Special Purpose Sandlime Bricks (London sites) ...	,,	7	14	0
2½ in. Best Stourbridge Fire Bricks (London stations)	,,	27	16	3
3 in. do. (London stations)	,,	33	8	0
2⅞ in. Moler Flue Bricks (London sites)	,,	36	0	0
2½ in. Machine-made Sandfaced Red Facings (London sites)	,,	14	8	6
2½ in. Machine-made Multi Red Facings (London sites)	,,	14	13	6
2½ in. Hand-made Sandfaced Red Facings (London sites)	,,	15	6	0
2½ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	,,	16	1	0
Hand-made Sandfaced Cherry Red Facings. Berkshire district (London sites)	per 1,000	17	11	3
Hand-made Sandfaced Multi-Colour Facings. Berkshire district (London sites)	,,	17	6	3
Rubber Bricks for gauged arches (London sites) ...	,,	41	10	0
2⅝ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	,,	13	6	0
2⅝ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	,,	14	18	0
Glazed Bricks (London sites), White, Ivory, Brown—				
Stretchers	,,	64	0	0
Headers	,,	63	0	0
Quoins, Bullnose and 4½ in. Flats	,,	80	0	0
Double Stretchers	,,	85	0	0
Double Headers	,,	77	10	0
One side and two ends	,,	87	0	0
Two sides and one end	,,	89	10	0
Splays and Squints	,,	83	0	0
Cream and Buff £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 17½% for Best quality and plus 17½% less 10% for Second quality.				

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District).

	Minimum lorry loads.		£	s.	d.
HOLLOW CLAY PARTITION BLOCKS (Keyed)					
*2 in.	140 yds.	per yd. sup.		4	4
*2½ in.	140 yds.	,,		4	7
* 3 in. (3 cavity) ...	120 yds.	,,		5	4
BUILDING BLOCKS (Keyed)					
*3 in. (6 cavity) ...	110 yds.	,,		5	6
*4 in. (6 cavity) ...	95 yds.	,,		6	9
6 in. (8¾ in. × 5⅝ in.)	1,250 blocks	per 1,000	26	6	0
* Half blocks at no extra charge.					
CLINKER CONCRETE					
2 in.	100 yds.	per yd. sup.		3	9
2½ in.	85 yds.	,,		4	4
3 in.	75 yds.	,,		5	3
4 in.	55 yds.	,,		6	5
CRANHAM					
2 in.		,,		6	8
2½ in.		,,		7	4
3 in.		,,		8	7
4 in.		,,		10	7
4½ in. Load bearing quality		,,		11	8
MOLER PARTITION BLOCKS					
2 in.	150 yds.	,,		15	6
2½ in.	120 yds.	,,		15	9
3 in.	100 yds.	,,		16	0
4 in.	90 yds.	,,		19	0
LIGHTWEIGHT CONCRETE BUILDING AND PARTITION BLOCKS OF VARIOUS SOURCES OF MANUFACTURE					
2 in.	100 yds.	,,		5	9
2½ in.	80 yds.	,,		6	11
3 in.	65 yds.	,,		8	1
4 in.	50 yds.	,,		9	6
4½ in.	44 yds.	,,		10	2
6 in.	33 yds.	,,		13	8
THERMALITE-YTONG PARTITION BLOCKS					
2½ in.	120 yds.	,,		6	11
THERMALITE-YTONG LOADBEARING INSULATING BLOCKS					
3 in.	100 yds.	,,		8	3½
4 in.	75 yds.	,,		10	9
5 in.	60 yds.	,,		13	5
6 in.	50 yds.	,,		16	1½
8 in.	37½ yds.	,,	1	1	6
9 in.	33 yds.	,,	1	4	3½
FLOOR BLOCKS AND FILLER TILES					
3 in. Floor Blocks 12 in. by 12 in. delivered in full lorry-loads		per 1,000	33	6	0
4 in. do.		,,	35	14	0
5 in. do.		,,	42	10	0
6 in. do.		,,	47	17	0
7 in. do.		,,	58	8	0
8 in. do.		,,	68	9	0
10″ × 3″ × ⅝″ Filler Tiles in multiples of 10 tiles		per 1,000 multiples	56	15	0
12″ × 3″ × ⅝″ do.	do.	,, ,,	64	10	0
10″ × 4″ × ⅞″ do.	do.	,, ,,	71	0	0

STONEWARE DRAIN PIPES, etc.

The following are the percentages to be added to the Standard List prices delivered London Area.

	Delivered ex Merchants Wharf or Depot			
	Over 2 tons	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons	
Best Quality ...	—	+117½%	+130%	
BSS Best do. ...	—	+10% +117½%	+10% +130%	
Tested Quality ...	—	+37½% +117½%	+37½% +130%	
BSS Tested do.	—	+47½% +117½%	+47½% +130%	

STONEWARE DRAIN PIPES, etc.—*continued*

	£ s. d.
Delivered ex Manufacturers' Works	
Best Quality ... +85% +105% +115%	
BSS Best do. ... +10% +85% +10% +105% +10% +115%	
Tested Quality ... +37½% +85% +37½% +105% +37½% +115%	
BSS Tested do.... +47½% +85% +47½% +105% +47½% +115%	
3 in. Land Drain Pipes (in 12 in. lengths) ... per 1,000	11 0 6
4 in. do. ... ... „	14 9 6
6 in. do. ... ... „	29 19 0
9 in. do. ... ... „	57 5 0

DAMP COURSE

Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area ... ... per yd. sup.	3 3½
Asbestos base ditto 7 lb. per yd. sup. do. do. „	5 2
Lead lined bitumen ditto 9½ lb. per yd. sup. do. „	12 2
18 in. × 9 in. British damp course slates ... ... per 1,000	41 12 8
14 in. × 9 in. do. do. ... ... „	32 0 0
9 in. × 9 in. do. do. ... ... „	18 2 6
18 in. × 4½ in. do. do. ... ... „	19 2 6
14 in. × 4½ in. do. do. ... ... „	15 4 9
9 in. × 4½ in. do. do. ... ... „	10 5 3

STONE

Bath Stone—	
Monks Park ... ... per ft. cube	8 0
St. Aldhelm Box Ground ... ... „	9 0
Delivered in railway trucks at South Lambeth B.R. Western Region.	
Doulting Stone Random Blocks. Delivered London area „	8 9
Beer Stone. Delivered London area ... ... „	8 3
Portland Stone—	
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region ... ... „	8 3½
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.	
9 in. × 3 in. Rubbed, weathered, throated and stooled cills ... ... per ft. cube	3 10 8
12 in. × 6 in. do. do. ... ... „	2 10 6
12 in. × 3 in. Plain coping, twice throated ... „	1 19 0
12 in. × 3 in. Weathered and twice throated coping „	2 12 0
14 in. × 6 in. do. do. ... ... „	2 7 0
4½ in. × 9 in. Plinth, rubbed on top and face ... „	2 2 0
3 in. sawn two sides Slabs, random sizes ... ... per ft. sup.	7 6
Templates and Cover Stones. 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork ... per ft. cube	1 5 9
Do. do. fair one edge for fair faced brickwork ... ... „	1 10 6
Hard York—	
12 in. × 2 in. Square Steps, rubbed on top and edge per ft. run	9 0
14 in. × 3 in. Round-nosed Steps, rubbed on top and front ... ... per ft. cube	2 8 0
12 in. × 6 in. Plain Steps, rubbed top and front „	2 2 0
2 in. Rubbed and Jointed Paving, given sizes ... per ft. sup.	8 6
2 in. Sawn Paving, edges squared, in random sizes per yd. sup.	2 19 3

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000.	
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	29 8 0
Hand-made Pantiles Berkshire district	50 9 0
Hand-made Double Roman Bridgwater district	58 13 6
Hand-made 10½ × 6½ tiles Berkshire district	14 1 6
Machine-made 10½ × 6½ Staffordshire district	13 18 9
Hand-made Hip and Valley tiles per doz.	1 10 0
Machine-made Hip and Valley tiles do.	1 8 0
Concrete tiles 10½ × 6½	8 1 6
do. Interlocking (49S)	19 0 0

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.	
24 × 12	137 2 4
22 × 12	111 8 0
22 × 11	100 14 1
20 × 12	94 9 10
20 × 10	90 8 6
18 × 10	62 17 0
18 × 9	55 1 6
16 × 10	49 10 0
16 × 8	38 15 3

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

Softwood—				
Joinery quality	Ex. Wharf	per standard	£115 to £140	
Carcassing quality	do.	„	£100 to £105	
1 in. Tongued and Grooved Flooring	do.	„	£110 0 0	
Hardwood—				
Mahogany—African S.E. ...	do.	per ft. cube	1 10 0	
do. Honduras do. ...	do.	„	3 5 0	
Oak European do. ...	do.	„	2 5 0	
do. Japanese do. ...	do.	„	2 10 0	
do. English Logs sawn ...	do.	„	1 17 6	
Teak 8 in. average S.E. ...	do.	„	3 17 6	
Walnut African Logs sawn ...	do.	„	1 5 0	

DOORS (in Lots I-II)

	£ s. d.
Delivered London area.	
1½ in. 4 Horizontal Panel. Pattern 4 in. deal	
2 ft. 0 in. × 6 ft. 6 in. ... ... each	1 12 0
2 ft. 3 in. × 6 ft. 6 in. ... ... „	1 13 0
2 ft. 6 in. × 6 ft. 6 in. ... ... „	1 14 0
2 ft. 9 in. × 6 ft. 6 in. ... ... „	1 16 6
2 in. do. but top panel open. Pattern 4 × G in deal	
2 ft. 6 in. × 6 ft. 6 in. ... ... „	2 9 0
2 ft. 9 in. × 6 ft. 6 in. ... ... „	2 11 6
2 in. Panel, top panel open. Pattern 2 × G in deal	
2 ft. 6 in. × 6 ft. 6 in. ... ... „	2 1 9
2 ft. 9 in. × 6 ft. 6 in. ... ... „	2 3 6

SUNDRIES

Delivered London area.	
1 in. Wood Wool Slabs, 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ... ... per yd.	5 8
1½ in. do. (67 yds. to 1 ton) ... ... „	7 4
2 in. do. (52 yds. to 1 ton) ... ... „	8 11½
2½ in. do. (45 yds. to 1 ton) ... ... „	10 3
3 in. do. (39 yds. to 1 ton) ... ... „	11 5½
Quantities under 1 ton add 1d. per ½ in. of thickness.	
½ in. imported insulation Board, quantities over 5,000 sq. ft. per 100 sq. ft.	2 2 6
¼ in. Hardboard do. ... ... „	2 1 6
⅜ in. do. do. ... ... „	3 2 6
⅛ in. Asbestos Flat Building Sheets ... ... per yd. sup.	3 8
¼ in. do. ... ... „	4 10
Roofing Felt, 1-ply ... ... „	1 7
do. 2-ply ... ... „	2 0
Best Scotch Glue in slabs ... ... per ½ cwt.	5 0 0
do. pearl ... ... „	5 5 0
Croid Glue ... ... 28 lb.	2 6 0
Cut Nails 3 in. (1-ton lots) ... ... per ton	66 10 0
do. 4 in. and up (1-ton lots) ... ... „	63 0 0
Wire Nails, 3 in. (4-cwt. lots) ... ... per cwt.	3 0 9
do. 4 in. and up (4-cwt. lots) ... ... „	3 0 3

METALS

Steel Joists, Etc.

Basis Joists—	
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in. 12 in. × 6 in. plain cut to lengths delivered London area ... ... per ton	41 10 0
Extra for sizes	
3 in. × 1½ in. 4 in. × 1½ in. ... ... „	3 10 0
3 in. × 3 in. ... ... „	2 10 0
4 in. × 3 in. 10 in. × 4½ in. ... ... „	1 10 0
5 in. × 2½ in. 5 in. × 3 in. ... ... „	1 15 0
4½ in. × 1½ in. ... ... „	3 5 0
5 in. × 4½ in. 7 in. × 3½ in. 13 in. × 5 in. „	15 0
6 in. × 3 in. 24 in. × 7½ in. ... ... „	2 0 0
6 in. × 4½ in. 7 in. × 4 in. 8 in. × 4 in. } „	1 5 0
9 in. × 4 in. 10 in. × 5 in. ... ... }	
12 in. × 5 in. 22 in. × 7 in. ... ... „	1 0 0
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in. }	
14 in. × 5½ in. 14 in. × 6 in. 14 in. × 8 in. }	
15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in. } „	10 0
16 in. × 8 in. 18 in. × 6 in. 18 in. × 7 in. }	
18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in. }	
Steel angles average price ... ... „	43 5 0
Steel tees average price ... ... „	44 5 0
Fabricated work delivered London—	
R.S. Joists cut and fitted ... ... „	58 10 0
Compound girders ... ... „	64 10 0
Stanchions ... ... „	70 0 0
Compound stanchions ... ... „	74 5 0
In Roof Work—Trusses and Purlins ... ... „	87 10 0
Average prices not for awkward work.	
Angle cleats and ⅜ in., ½ in. and ⅞ in. bolts average price London area ... ... per cwt.	5 0 0

Ferro-Concrete Bars

Mild Steel Ferro-Concrete bars British manufacture to BSS785 ex London Stock ⅜ in. diam., and upwards ... ... „	42 11 0
¼ in. diam. ... ... per ton extra	8 12 0
⅜ in. do. ... ... „	6 12 0
½ in. do. ... ... „	4 12 0
⅝ in. do. ... ... „	3 2 0

Mild Steel Tubes

Tubes to BSS1387 and Fittings. List prices and following discounts:

Galvanised Tube—	W.I. Fittings	Malleable Fittings
Class A + 8½%		
Class B + 19½%	Light + 34½%	Malleable List—28¼% + 40%
Class C + 36½%	Heavy + 42%	
Black—		
Class A − 14½%		
Class B − 2½%	Light + 21½%	Malleable List—28¼%
Class C + 11½%	Heavy + 28½%	

C.I. Half-round Gutters

Delivered London per yd. in 6-ft. lengths

	Gutters	Nozzles	Stop Ends
3 in.	3/7½	3/3	/11
3½ in.	4/1½	3/6	/11
4 in.	5/1	3/11	1/5
4½ in.	5/7	4/5	1/8
5 in.	6/3	4/9	1/11

METALS—*continued*

C.I.O.G. Gutters

	Gutters	Nozzle	Stop Ends
3 in.	4/8	4/3	1/1
3½ in.	5/2½	4/3	1/5
4 in.	5/9½	4/5	1/8
4½ in.	6/3	5/1	1/11
5 in.	6/10	5/9	2/2

C.I. Rain-water Pipes

Per yd. in 6-ft. lengths	Pipe	Bends	Branches
2 in.	7/9	3/11	5/8
2½ in.	7/9	4/5	7/7
3 in.	8/8½	5/6	8/3
3½ in.	9/11	6/6	9/11
4 in.	11/5½	7/11	11/9

L.C.C. Coated Soil Pipes

2 in.	8/9½	6/10	8/3
2½ in.	9/3	7/6	10/3
3 in.	10/5	8/3	12/2
3½ in.	11/7½	10/3	14/3
4 in.	13/3	11/6	16/9

Above prices for gutters, rain-water and soil pipes for under 5 cwt. lots only. Lots over 5 cwt. see List No. 3300 dated February 1, 1955, plus 10% and tonnage allowance. 4-ton lots 5 per cent., 2-ton lots 2½ per cent.

L.C.C. Coated Drain Pipes

In 9-fts.

	cwt.	qr.	lb.	per yd.	Bends	Branches
4 in.	1	1	17	30/6	21/3	37/6
6 in.	2	0	1	45/–	56/6	90/9

Asbestos Rain-water Pipes and Fittings

All less 17½ per cent. discount.

		2 in.	2½ in.	3 in.	4 in.
Pipes 6-ft. lengths	...per yd.	3/11½	4/3	5/1½	6/9½
Shoes	each	2/7	2/10	3/4	4/6
Single Branches	„	4/–	4/9	5/8	7/11
Bends square or obtuse	„	2/10	3/1	4/–	5/8
Swan Necks 4½ in. proj.	„	3/1	4/–	4/6	6/3
do. 6 in. do.	„	3/4	4/–	5/1	6/9

Asbestos O.G. Gutters and Fittings

		4 in.	4½ in.	5 in.	6 in.
Gutters 6 ft. lengths	...per yd.	3/8½	4/2	4/11½	5/11½
Drop ends	each	3/–	3/6	4/1	4/10
Stop ends	„	/11	1/–	1/1	1/3
Angles	„	3/1	3/7	4/4	5/1
Nozzles	„	3/–	3/6	4/1	4/10
Union Clips	„	1/6	1/9	2/2	2/6

Asbestos Half-Round Gutters and Fittings

		3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters 6 ft. lengths	per yd.	2/7½	3/1½	3/2½	3/9½	5/3½
Drop ends	each	2/2	2/7	2/10	3/1	4/6
Stop ends	„	/10	/11	1/–	1/1	1/3
Angles	„	2/6	2/10	3/1	3/4	4/6
Nozzles	„	2/2	2/7	2/10	3/1	4/6
Union Clips	„	1/1	1/2	1/3	1/5	2/1

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	43 12 6
Mild Steel Bars	40 4 0
Mild Steel Hoops	41 3 6

	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft Sheets C.R. and C.A.—	
20 gauge	52 8 6
24 gauge	54 18 6
26 gauge	57 18 6
Galvanised Corrugated sheets 6 ft. to 9 ft.—	
20 gauge	61 0 0
24 gauge	64 10 0
26 gauge	69 15 0
Galvanised flat sheets C.R. and C.A.—	
20 gauge	62 0 0
24 gauge	65 10 0
26 gauge	70 15 0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base prices)		£ s. d.
Sheet BS 1470 S1C 18 SWG (36 in. wide)	per lb.	2 9½
Sheet BS 1470 NS 3 Utility 18 SWG (36 in. wide)	„	2 7
Coiled strip BS 1470 S1C 18 SWG (24 in. wide)	„	2 8½
Coiled strip BS 1470 NS 3 Utility 18 SWG (24 in. wide)	„	2 6½
Coiled strip for flashing 99.7% purity 22 SWG (12 in. wide)	„	2 11
Corrugated sheet BS 1470 NS 3 Utility Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1 11 0
Corrugated sheet BS 1470 NS 3 Utility Industrial Profile 8 ft. × 31½ in. × 20 SWG	„	1 16 9
Corrugated sheet BS 1470 NS 3 Utility Mansard Profile 8 ft. × 31½ in. × 20 SWG	„	1 10 2
Extruded section BS 1476 E1C simple moulding	per lb.	2 7½
Extruded section BS 1476 E1C 1 in. diam. round	„	2 5
Extruded section BS 1476 HE10WP simple angle	„	2 10½
Extruded section BS 1476 HE10WP 1 in. diam. round	„	2 9½
Tubing BS 1471 T1C 1½ in. O/D × 20 SWG	„	4 2½
Tubing BS 1471 HT10WP 1½ in. O/D × 20 SWG	„	5 5½

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

All per doz.	M.O.H. ½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron	87/–	128/8				
Toilet bib cocks for iron	109/–	158/5				
Screwdown stop cocks for iron	66/–	95/9	188/–	363/–	522/6	917/6
do. with two unions for lead	89/–	132/–	234/4	472/–	623/6	1389/6
Double nut boiler screws	18/8	26/5	47/6	48/6	67/–	93/6
Heavy Croydon ball valves	77/–	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/–
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and screws	33/–	40/8	59/6	92/5	118/10	155/3
Brass sleeves		31/11	31/11	56/2	74/10	91/5
	1¼ × 6 lb.	1½ × 6 lb.	2 × 7 lb.	3 × 7 lb.		
Lead P. trap with brass cleaning screws	72/7	90/9	145/3	248/1		
Lead S. trap do.	87/9	108/11	178/6	320/8		

Solder		s. d.
Plumbers'	per lb.	4 1
Tinmen's	„	4 11
Blow pipe	„	5 0

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 44¾d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 3 cwt.

	Extra d.	Total per lb. d.	approx. per ft. d.
½ in. × 19 gauge	13¾	57⅞	15½
¾ in. × 19 „	11⅞	56½	22
1 in. × 18 „	10⅜	54½	34
1¼ in. × 18 „	9½	54½	41½
1½ in. × 18 „	9¾	54½	49¼
2 in. × 17 „	11⅜	55¼	78

		£ s. d.
Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras	per ton	466 5 0

Zinc

			£ s. d.
Sheet Zinc	10 gauge (25 SWG)	5 cwt. lots upwards per cwt.	8 10 9
do.	12 gauge (23 SWG)	„ „	8 8 3
do.	14 gauge (21 SWG)	„ „	8 7 0

Brass Tubes

		£ s. d.
Brass tubes basic price, plus gauge and manufacturing extras	per lb.	2 11½

LEAD SHEET AND PIPES

Basis selling price in minimum one-ton delivery to one address in London or Home Counties.

		£ s. d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	157 15 0
Lead Water Pipe in coils	„	159 0 0
Lead Soil Pipe 10 ft. or over 2 in. to 4 in. dia.	„	160 10 0
„ over 4 in. dia.	„	162 10 0
Lead Gas or Untinned Compo pipe	„	160 10 0
Extras over Basis for quantities under 1 ton		
5 cwt. and under 1 ton	per cwt.	2 0
3 cwt. do. 5 cwt.	„	4 0
1 cwt. do. 3 cwt.	„	6 0

Smaller quantities than 1 cwt. priced specially.
Supplying sheet lead and lead pipe to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.
Allowance for Old Lead, collected £107 0s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£ s. d.
Coarse Pink in 1-ton loads and over Delivered on Site	per ton	7 11 9
do. White do. do.	„	7 19 6
Sirapite Coarse do. do.	„	7 14 0
do. Fine do. do.	„	8 2 0
Blue Lias Lime in 6-ton loads	„	6 14 6
Hydrated Lime do.	„	5 17 6
Lump Lime do.	„	5 7 0
White Keen's or Parian Cement in 1-ton loads	„	10 17 0
Pink Keen's or Parian Cement in 1-ton loads	„	10 11 9
Granite Chips in 6-ton loads	„	2 9 4
Hair	per cwt.	4 17 6
Gypsum Plaster Lath or Base Board ⅜ in. thick 600 yds. and over in one delivery. Delivered site 1,200 yds.	per yd.	2 3½
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site 1,200 yds.	„	2 2½
Gypsum Plaster Wall Boards, 3 and 4 ft. wide 6 to 12 ft., ⅜ in. thick, 600 yds. and over in one delivery. Delivered site 1,200 yds.	„	2 11½
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site 1,200 yds.	„	2 10½
	„	2 6½
	„	2 5½
	„	3 2½
	„	3 1½

PAINT AND DISTEMPER

Delivered London area		£	s.	d.
Ceiling Distemper	per cwt.	1	7	6
Washable Distemper	,,	5	5	0
Gloss Paint	per gal.	2	10	0
Snowcem cement paint (in 1 cwt. drums)	per cwt.	3	11	0
Lead Products and Oils				
Ground White Lead, 1 cwt. kegs	per cwt.	9	18	0
Genuine White Lead Paint, 1-19 gal. lots in 1 gal. tins	per gal.	3	12	0
Genuine Red Lead, Dry, 1 cwt. keg	per cwt.	7	13	0
Genuine Linseed Oil Putty, 1 cwt. keg	,,	2	18	0
Size XD quality, 28 lb.	per tin		9	0
Raw Linseed Oil (5 gal.) drums extra	per gal.		17	3
Boiled Linseed Oil (5 gal.) do.	,,		17	9
Sundries.				
Turpentine substitute (5 gal.) drums extra	,,		5	6½
do. do. (40 gal.) do. do.	,,		4	8½
Solignum, Brown (5 gal. cans) Exterior	,,		7	4
Creosote (40 gal. barrels)	,,		2	0
Paste Powder (1 lb. packets)	per lb.		2	0
White Lining Paper	per piece		1	1

VARNISHES, etc.

Delivered London area.				
Oak Varnish, Outside or Inside	per gal.	1	18	0
Oak Pale Copal do.	,,	1	18	0
Hard Drying Oak for Inside	,,	2	1	0
Crystal Paper Varnish do.	,,	2	4	0
Eggshell Flat Varnish do.	,,	2	6	0
Finest Carriage Varnish	,,	2	5	0
Front Door Varnish	,,	2	1	0
Japan Gold Size	,,	1	14	0
Black Japan	,,	1	15	0
Brunswick Black	,,	1	10	0
Berlin Black	,,	1	7	6
Terebene	,,	1	13	0
Knotting (1 gal. bottles free)	,,	2	7	0
French and Brush Polish (do.)	,,	2	0	0

GLASS

Delivered London area	Per ft. super s.	d.
18 oz. Sheet Glass Ordinary Glazing Quality. Cut Sizes		6½
24 oz. ,, ,, ,, ,, ,, ,,		8½
26 oz. ,, ,, ,, ,, ,, ,,		11
32 oz. ,, ,, ,, ,, ,, ,,	1	2½
¼ in. Rolled Plate		10
1/16 in. and ¼ in. Rough Cast	1	1

	Per ft. super s.	d.
⅛ in. Figured Rolled and Cathedral, Standard patterns : White		10
do. Standard Tints	1	5½
do. Special Tints	2	11½
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating	1	2
¼ in. Wired Cast	1	3½
¼ in. Georgian Wired Cast	1	3½
Hollow Glass Blocks—	Each	
P.B.2 5¾ × 5¾ × 3⅞ in.	2	11
P.B.3 7¾ × 7¾ × 3⅞ in.	4	5
P.B.32 7¾ × 7¾ × 3⅛ in.	4	5
Radiused Corner Blocks to match up with—		
P.B.2	5	6
P.B.3	7	0
P.B.32	7	0
¼ in. Polished Plate Glass, G.G. Quality—	Per ft. super	
In plates not exceeding 2 ft. sup.	3	7
,, ,, ,, 5 ft. sup.	4	5
,, ,, ,, 45 ft. sup.	5	1
,, ,, ,, 100 ft. sup.	5	6
¼ in. Polished Plate, extra sizes, *i.e.*, plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality —Not exceeding 135 ft. sup. or 250 in. one way or 135 in. both ways	8	4
Not exceeding 180 ft. sup. or ditto	11	3
Not exceeding 200 ft. sup. or ditto	16	0

Plates exceeding 200 ft. sup. prices on application.
Substances other than ¼ in. Polished Plate at Special Prices.

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass	Minimum quantity	Per ft. sup. s.	d.
18 oz. sheet O.Q.	3,000		4⅞
24 oz. ,, ,,	2,000		6½
26 oz. ,, ,,	2,000		8⅛
32 oz. ,, ,,	2,000		11⅛
¼ in. Rolled Plate	1,000		8
⅛ in. Figured Rolled and Cathedral Standard Patterns, White	1,000		8
⅛ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte	1,000		11
1/16 in. and ¼ in. Rolled Plate or Rough Cast	2,000		11
¼ in. Wired Cast, Hexagonal	2,000	1	0½
¼ in. Georgian Wired Cast	2,000	1	1

The Builder

CURRENT RATES OF WAGES

AS FROM APRIL 16, 1956. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1	A2
Craftsmen	4/3½	4/3	4/2½
Labourers	3/9	3/8½	3/8

Town.	Grade.
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Afan Valley	A
Aldeburgh	A1
Aldershot District	A1
Alfreton UD	A
Alnwick UD	A
Altrincham	A
Amble	A
Ambleside	A2
Amersham	A1
Ammanford	A
Andover	A2
Anglesey, Isle of	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashbourne RD	A2
Ashbourne UD	A2
Ashby-de-la-Zouch UD	A
Ashby Woulds UD	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington UD	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone RD	A
Attleborough	A2
Axminster	A2
Aylesbury	A2
Aylesham	A2
Bagshot	A2
Bakewell UD	A2
Banbury	A1
Bangor	A2
Barnard Castle UD	A
Barnoldswick UD	A
Barnsley CB	A
Barnstaple	A2
Barrow-in-Furness	A
Barrow-upon-Soar RD (exc. Thrussington A2)	A
Barry	A
Basford RD (exc. Willough-by-on-the-Wolds A1)	A
Basingstoke	A1
Bath	A
Batley MB	A
Baxterley	A1
Beaconsfield District	A
Bearl	A
Beccles	A2
Bedale RD	A
Bedford	A
Bedlington	A
Bedlingtonshire UD	A
Bedwas	A
Beeston & Stapleford UD	A
Belper UD	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick Borough	A
Beverley MB	A
Bewdley MB	A
Bexhill-on-Sea	A2
Bideford	A2
Biggleswade	A2
Billericay	A
Billing	A
Billingham UD	A
Bilsthorpe	A
Bilston MB	A
Birchington	A2
Birkenhead	*
Birmingham CB	†A
Bishop Auckland UD	A
Bishop's Stortford	A
Bishops Castle MB	A2
Bispham	A
Blackburn	A
Blackpool	A
Blackwell RD	A
Blandford	A2
Blaydon UD	A
Blidworth	A
Blyth B.	A
Bodmin	A2
Bognor Regis	A2
Boldon UD	A
Bolsover UD	A
Bolton	A
Boston MB	A
Bourne End	A
Bournemouth District	A
Brackley MB	A2
Bracknell	A2
Bradford CB	A
Bradford-on-Avon	A2
Braintree	A1
Brandon & Byshottles UD	A
Brecon—Borough of	A1
Breconshire, County of	‡A2
Brent Knoll	A2
Brentwood	A
Bridgend	A
Bridlington MB	A
Bridlington RD	A1
Bridgnorth MB	A1
Bridgnorth RD	A2
Bridgwater	A1
Brierfield	A
Brighouse MB	A
Brighton & Hove	A
Bristol District	A
Broadstairs	A2
Bromsgrove UD	A
Broughton, Flint	A
Buckfastleigh	A2
Buckingham	A2
Buckley	A
Bungay	A2
Burnham-on-Crouch	A2
Burnham-on-Sea	A2
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A
Byfleet	A1
Caernarvon	A2
Caernarvonshire, Cnty. of	‡A2
Calder Valley	A
Camberley District	A2
Cambridge	A
Cannock UD	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A2
Carlisle	A

CURRENT RATES OF WAGES—Continued

Town.	Grade.
Carlton UD	A
Carmarthen—Borough of	A1
Carmarthenshire, Cnty of ‡	A2
Carnforth	A
Castleford UD	A
Caterham	A
Chapel-en-le-Frith	A
Chard	A2
Charmy Down	A
Chatham District	A
Chatteris	A2
Cheadle (Staffs) RD	A
Chelmsford	A
Cheltenham	A
Chepstow	A1
Chertsey	A
Chester	A
Chester-le-Street UD	A
Chesterfield MB	A
Chesterfield RD	A
Chichester	A2
Chipping Norton	A2
Chipping Sodbury	A2
Chippenham (inc. Chippenham Within and Hardenhuish)	A2
Cirencester	A2
Chorley	A
Clacton	A1
Clay Cross UD	A
Cleethorpes MB	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville UD	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett UD	A
Conway	A1
Corby UD	A
Cornwall, County of	‡A2
Corsham District	A
Coventry CB	A
Cranbrook	A2
Cranleigh	A2
Cranwell Aerodrome Site	A1
Crawley	A1
Crewe	A
Crewkerne	A2
Cromer	A1
Crook and Willington UD	A
Crowborough	A2
Cuckfield	A2
Cwmbran	A
Dalton-in-Furness	A
Darlington CB	A
Dartmouth	A2
Darwen	A
Daventry MB	A2
Deal	A2
Denbigh Town	A2
Derby CB	A
Devizes	A2
Devon, County of	‡A2
Dewsbury CB	A
Didcot	A2
Diss	A2
Doncaster CB	A
Dorchester	A2
Dorking	A
Dorset, County of (except-ing Poole, Swanage and Wimborne A1)	A2
Dover	A2
Dovercourt	A
Driffield UD	A1
Drigg & Carleton	A
Droitwich MB	A
Dudley CB	A
Dunstable	A
Durham B	A
Eastbourne	A
E. Glam. & Mon. Val.	A
East Grinstead District	A2
East Kesteven RD	A2
East Retford MB	A
Eastwood (Notts) UD	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A2
Epping	A
Evesham MB	A2
Exeter	A
Exmouth	A2
Fakenham	A2
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey UD	A
Fleetwood	A
Flint MB	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough UD	A
Gateshead CB	A
Gillingham (Dorset)	A2
Gillingham (Kent)	A1
Glastonbury & Street	A2
Glossop	A
Gloucester	A
Gloucestershire, Cnty. of ‡	A2
Godalming	A2
Goole, MB	A
Goole RD (part—Airmyn, Hook)	A
Gosport	A
Grantham MB	A
Gravesend	A
Grays Thurrock UD Area	A
Great Yarmouth	A
Grimsby CB	A
Grimsby RD (part)	A
Guildford District	A2
Halesowen MB	A
Halifax CB	A
Halstead	A2
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate MB	A
Hartlepool B	A
Harwell	A2
Harwich	A
Haslemere	A2
Hastings	A2
Hatfield (Herts)	A
Havant	A
Haywards Heath	A2
Heanor UD	A
Hemel Hempstead	A
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham RD	A
Hexham UD	A
Heysham	A
Heywood	A
Higham Ferrers MB	A
High Wycombe	A
Hinckley UD	A
Hitchin	A
Hoddesdon	A
Holywell	A
Horley	A2
Horncastle UD	A2
Horsham	A2
Horwich	A
Huddersfield CB	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkeston MB	A
Ilkley UD	A
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A2
Ilfracombe	A2
Jarrow B	A
Keighley MB	A
Kendal	A
Kenilworth UD	A
Kettering MB	A
Keynsham	A
Kidderminster MB	A
Kingskerswell	A1
King's Lynn	A1
Kingsteignton	A1
Kirkham	A
Knaresborough UD	A
Knutsford	A
Lancaster	A
Leamington MB	A
Leatherhead	A
Leeds CB	A
Leek UD	A
Leicester CB	A
Leighton Buzzard	A1
Leiston	A2
Leominster	A2
Letchworth	A
Lewes	A2
Lichfield MB	A
Lincoln CB	A
Liskeard	A2
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly (incl. Llanelly RD)	A
Llanfairfechan	A2
Llangollen	A2
London	*
Long Eaton	A
Looe	A2
Loughborough MB	A
Louth MB	A1
Lowestoft	A
Loxton	A2
Ludlow MB	A2
Ludlow RD	A2
Luton	A
Lyme Regis	A2
Lyneham (Devon)	A2
Lytham	A
Macclesfield	A
Maidenhead	A
Maidstone	A
Maldon (Essex)	A1
Maltby UD	A
Malton UD	A2
Malvern UD	A1
Manchester	A
Manningtree	A1
Mansfield MB	A
March	A2
Margate	A2
Market Harborough RD	A1
Market Harborough UD	A
Market Rasen UD	A2
Martock	A2
Maryport	A
Matlock UD	A
Melksham	A2
Melton Mowbray UD	A1
Merionethshire	A2
Merthyr	A
Mexborough UD	A
Middlesbrough CB	A
Middleton	A
Middlewich	A
Mildenhall	A2
Milford Haven UD	A1
Minehead	A2
Monmouth—Borough of	A1
Monmouthshire	A1
Morecambe	A
Moreton Valence	A2
Morley	A
Morpeth B	A
Morpeth RD	A
Mundesley	A2
Nantwich	A
Neath & Valley	A
Nelson	A
Newark MB	A
Newbury	A2
Newcastle-on-Tyne CB	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A2
Newquay	A2
Newton Abbot	A1
Normanton UD	A
Northallerton District	A
Northallerton UD	A
Northampton CB	A
North Shields	A
North Walsham	A2
Northwich	A
Norton Radstock	A1
Norwich	A
Nottingham CB	A
Nuneaton MB	A
Oakham RD	A2
Oakham UD	A2
Okehampton	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett & Horbury	A
Oswestry	A2
Oundle UD	A2
Oxford	A
Oxted	A1
Padstow	A2
Paignton	A1
Par	A2
Pembrokeshire (except Milford Haven)	A2
Penmaenmawr	A2
Penrith UD	A1
Penzance	A2
Peterborough, Soke of (Eastern Regional portion)	A1
Petersfield	A2
Pickering	A2
Plymouth	A
Pontefract MB	A
Pontypool & District	A
Pontypridd District	A
Porthcawl	A
Portishead	A
Portland Bill	A1
Portsmouth	A
Port Talbot	A
Preston	A
Princetown	A2
Pudsey MB	A
Pulborough	A2
Radnorshire, County of	‡A2
Ramsgate	A2
Raunds UD	A
Rayleigh	A
Reading	A
Redcar B	A
Redditch UD	A
Redhill & Reigate	A
Rhondda Valley	A
Richmond B (Yorks)	A
Ripon MB	A2
Rochdale	A
Rochester	A1
Ross-on-Wye	A2
Rossendale Valley	A
Rotherham CB	A
Royston	A1
Rugby MB	A
Rugeley UD	A1
Rushden UD	A
Saffron Walden	A2
St. Albans	A
St. Austell	A2
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sandy	A2
Sawbridgeworth	A
Saxmundham	A2
Scarborough MB	A
Scunthorpe MB	A
Seaford & Newhaven	A2
Selby UD	A
Sevenoaks	A
Shaftesbury	A2
Sheerness	A2
Sheffield MB	A
Shepton Mallet	A2
Sherborne	A2
Shipley	A
Shoeburyness	A
Shoreham	A
Shrewsbury MB	A
Sirhowy Valleys	A
Sittingbourne	A2
Skegness UD	A1
Skipton UD	A
Sleaford UD	A1
Slough, Windsor & Eton District	A
Smethwick CB	†A
Snettisham	A2
Solihull UD	A
Somerset, County of	‡A2
Southampton and Eastleigh	A
Southend-on-Sea Dist.	A
Southport	A
South Shields CB	A
Southwold	A2
Spalding UD	A1
Stafford MB	A
Staines	A
Stamford MB	A1
Stantonwick	A
Stevenage	A
Stockport	A
Stockton RD	A
Stockton-on-Tees B	A
Stoke-on-Trent CB	A
Stoke Orchard	A1
Stourbridge MB	A
Stourport UD	A
Stowmarket	A1
Stratford-on-Avon MB	A
Stroud (RD Area)	A1
Sunderland CB	A
Sunningdale	A1
Sutton Coldfield MB	A
Swadlincote UD	A
Swaffham	A2
Swanage District	A1
Swansea	A
Swindon District	A
Swinton UD	A
Tamworth MB	A
Taunton	A2
Tavistock	A2
Tenterden	A2
Teignmouth	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A2
Thirsk RD	A
Thorpe Bay	A
Thurrock UDC Area	A
,, North of to Billericay	A
Tilbury	A
Todmorden MB	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Tring	A2
Trowbridge	A2
Truro	A2
Tunbridge Wells	A1
Tynemouth CB	A
Ulverston	A
Uppingham (Salop)	A1
Uttoxeter RD	A2
Uttoxeter UD	A1
Wakefield CB	A
Wakefield RD	A
Wallsall CB	A
Wallsend B	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick MB	A
Wednesbury MB	A
Wellingborough UD	A
Wellington UD	A
Wellington (Somerset)	A2
Wells (Norfolk)	A2
Wells (Somerset)	A2
Welwyn	A
Welwyn Gar. City	A
West Bromwich CB	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
West Hartlepool CB	A
Westmorland (except Kendal)	A2
Weston-super-Mare	A1
Weybridge	A
Weymouth (including Portland Bill, excluding Portland Stoneyards)	A1
Whitby UD	A1
Whitby RD	A1
Whitehaven	A
Whitley & Monkseaton UD	A
Whitstable and District	A2
Wickford	A
Widnes	A
Wigan	A
Wigton	A2
Wilmslow	A
Wilts. County of	‡A2
Wimborne	A1
Wincanton	A2
Winchester	A1
Windermere	A2
Wisbech	A2
Witham	A1
Withernsea UD	A
Woking	A1
Wokingham	A2
Wolverhampton CB	A
Wolverton District	A2
Woodbridge	A2
Woodnall Spa UD	A
Woodstock	A2
Worcester CB	A
Workington	A
Worksop MB	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A1
Wylam	A
Wymondham	A2
Yate	A2
Yeovil Borough	A1
York CB	A
Ystalyfera	A

For Birkenhead, Liverpool and London the rates are:—Craftsmen, 4s. 5d.; Labourers, 3s. 10½d. In the case of London the rate beyond the 12-mile radius is: Craftsmen, 4s. 4½d.; Labourers, 3s. 10d. †Plus 2d. per working day. ‡This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters and Joiners providing own tools when employed in establishments operating under the Supplementary Rules for Woodworking Factories and Shops, receive 2d. per day; when employed on other building industry work, 4d. per day.

*WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 3s. 5d. per hour. Women engaged on work other than craft processes, 3s. 1d. per hour.

For Building Trade Wages in Scotland see page 375

OVERSEAS BUILDING

(From Our Own Correspondents)

AUSTRALIA.—Olympic building progress: Members of five trade unions working on construction of the new stand at the Melbourne Cricket Ground, the Main Olympic Stadium, pledged themselves recently at a special meeting to finish the construction well ahead of the start of the Games. A spokesman for the Combined Building Trade Union Committee said that the men had agreed to work a six-day week at overtime rates to finish the work. A full staff of 320 men is working at top speed to finish the huge stand by the second week in July leaving ample time for other preparations to equip the stand for its Olympic rôle. These include installation of a complete system of communications for Games administration, radio commentators, and Press. Fifty broadcasting studioettes to be built in the stand will be linked by line with the commentators' seats in the adjoining Press and radio stand . . . construction of the swimming pool is progressing well. A final decision has been made not to tile the bottom of the pool. This would have cost £28,000. . . . The Cycling Velodrome is a little behind schedule but contractors are speeding it up. It is a comparatively simple structure and should be finished in time for the Australian Amateur Cycling Unions' trials in September.

HONDURAS.—With the assistance and on the recommendations of the International Bank, several firms of consulting engineers have been invited to submit proposals for the completion of technical studies of the Rio Lindo hydro-electric scheme. It is intended to award the contract without delay in order that the successful firm can start work before the wet season. . . . Other projects under consideration include a cement factory and a pulp and paper factory. United Nations experts are still studying the economic and technical problems involved in establishing a pulp and paper factory; there are signs of interest from investors in the United States.

IRAQ.—Tenders are invited by the Mutasarrifiyah of Baghdad Liwa (local administration) for construction of a theatre and assembly hall at Karradat Maryam to drawings and specifications obtainable from the Technical office in the Mutasarrifiyah, in Baghdad, or from the Iraqi Embassy in London, on payment of 20 dinars which is not returnable. Tenders will be accepted up to 12 noon on May 30, 1956, accompanied by three per cent. of the total price.

KENYA.—Under "the H.H. Aga Khan programme" to provide every Ismailia family in Mombasa with a home by 1960, a new mosque together with 160 flats and 40 houses are to be built at a total cost of £400,000. A similar scheme costing £160,000 has already been completed at Makupa.

NEW ZEALAND.—A change in plans for the northern approaches to the Auckland Harbour Bridge has been approved by the New Zealand Government. The approach through Queen-street, Northcote, which was adopted when the plans for the bridge were revised, has been abandoned. Instead, the Government is arranging for a subsidy of £623,000 towards the £1m. Gordon-road—Shoal Bay approach in Northcote. The adoption of this route will avoid interference with Northcote's main street, which would have included substantial widening for its whole length. . . . Test borings for a new harbour at Lyttleton have been started. The new harbour will be next to the existing port, and will be part of the Lyttleton Harbour Board's port development scheme. Exploratory drilling has been made on the proposed site of a quarry, which is to supply stone for the new 1,400-ft. long breakwater. At least two million tons of stone ranging in size up to eight-ton blocks will be required. Harbour officials have estimated that the equipment necessary to bring the quarry into full production will cost about £200,000. . . . Plans to spend £10m. on harbour reclamation and road works have been placed before the Wellington City Council, by the City Engineer, Mr. F. B. C. Jeffreys. The plans provide for reclamation at Kaiwharawhara and the building of berths for ships there, and also for the reclamation of 58 acres in the Lambton Basin. New road works proposed include an elevated expressway from Aotea Quay to Taranaki-street, the widening of part of Tinakori-road and the building of a tunnel from Norway-street to Willis-street. . . . It looks as though tendering is going to be very competitive for the 180,000 kilowatt coal-power station at Mercer in the Waikato district of North Island and for the new bridge to be erected for the Auckland Harbour Bridge Authority. According to current estimates the Mercer project may cost as much as £12m. Tenders for the erection of buildings and the installation of machinery have been received from American and New Zealand firms as well as British. Some New Zealand companies have merged with overseas firms in a bid to get the contract. This part of the project, according to an Auckland source, will cost between £4m. and £5m. Contracts for the generators and switchgear have already been placed with Metropolitan Vickers Co. and the English Electric Corporation. Another British firm, Babcock and Wilcox, will supply the boilers. The plans for the Auckland Bridge, now being considered, call for two overhead freeways which will be connected with parking areas by ramps. . . . The National Roads Board announced that a new motorway will be built in stages between Northcote and Albany. It will be nine miles in length and will carry four traffic lanes. It will give traffic a shorter distance to travel between Auckland City and outlying northern areas. The new motorway will be linked with the new Harbour Bridge and also with existing rural highways in the north. . . . The tourist resort and thermal town of Rotorua is to have a new combined railway station and bus terminal. This is part of a major railways programme for concentration of modern freight and passenger facilities in one area in the borough. Plans provide for rearrangement and extension of the goods yard, the building of a road services maintenance workshop with up-to-date staff amenities, and the replacement of the present railway station with a combined rail and road passenger terminal. This terminal will be designed in consultation with local interests to provide a travel centre. . . . The Minister in Charge of Tourist and Health Resorts, the Hon. E. H. Halstead, stated recently that a very thorough investigation is being carried out before a site for the new tourist hotel at Franz Josef glacier is chosen. So far there has been no decision. Mr. Halstead is soon to examine the area. He will be assisted by technical officers from the Ministry of Works and the Department of Scientific and Industrial Research. . . . The Government has granted the Nelson City Council £50,000 towards improvements at Tahunanui Aerodrome. The council is the airport authority for Nelson and the money was promised when the Government closed the Nelson to Glenhope railway.

The New Zealand Government plans to build the country's biggest hydro-electric generating station on the Waitaki River (between Canterbury and Otago provinces in the South Island). The Royal NZ Navy and the Department of Scientific and Industrial Research are endeavouring to find a suitable route across the Cook Strait in order to link both islands by cable so that the rich hydro-generating resources of South Island can provide power for the heavily industrial North Island where generating resources are almost used up and the electric power supply problem is acute. The proposed station will have a capacity of 350,000 kilowatts, 25,000 kilowatts more than the hydro-electric station at Roxburgh which is now under construction. It has been estimated that power in the North Island drawn from the South Island will be required by 1962. The saving per year to New Zealand in 1972 of bringing power from South Island to North Island may be in the order of £10m. The saving in subsequent years is expected to be much greater. . . . The tender for construction of the power house for the Wairakei geothermal steam station is to be let shortly and it is expected that contractors will start within three months, according to NZ Press reports. The first 20,000 kw. of power are expected to come from the station about June, 1958, and a further 20,000 kw. six months later. By the end of 1959 or early 1960 it is planned to draw another 40,000 kw. Engineers working at the site, a mile upstream along the Waikato River from Huka Falls, are confident there is enough steam available from constant and reliable bores to more than double the planned output.

NICARAGUA.—The International Bank of Reconstruction and Development has granted a loan of $7¼m. to Nicaragua for power developments. The loan is split into two parts; $7,100,000 being for the new Managua 30.000 kw. installation which will carry transmission lines to 15 surrounding towns and villages, and $400,000 to the Institute of National Development for smaller power schemes throughout the country which will be of direct assistance to agriculture and industry. . . . The Kuljian Corporation of Philadelphia have been engaged by Empresa Nacional de Luz y Fuerza of Managua, as consulting engineers for the National Power System and have issued invitations for tenders for the new scheme, including the 30,000 kw. plant. . . . Projects are being considered by the

Development Council for the construction of factories for the manufacture of food oils from cotton seed, fertilizers and soap. A new slaughter house and refrigeration plant are to be inaugurated later this year. . . . An International Bank Mission visited the country some months ago in connection with the Government's application for a loan to rebuild the port of Corinto. The main plans are to lengthen the quay to about four times its present length, modernise the harbour installations and dredge the harbour to permit the passage of larger craft. The construction of a road from Chinandega to Corinto (including a bridge 240 metres long over the Paso Caballos estuary) and the installation of a water main from the mainland to the town of Corinto to supply drinking water are complementary projects. The cost of the port improvements (but not of the road, bridge and water main) is estimated at £1,300,000.

SWEDEN.—AB Katrinfors, the Swedish pulp manufacturers, plan to erect a new factory near Mariestad for the production of chemical pulp from deciduous wood. This will be the first factory of its kind in the country. The factory will have an output of about 20,000 tons annually. . . . The Swedish Hydro-Electric Power Board plans to erect seven new hydro-electric power stations along the upper reaches of the Ume River, Norrland, during the 1960s. The new stations which are estimated to cost about £25m. in all, will have an aggregate output capacity of 1,265m. kw. A committee has been set up by the Minister of Commerce to investigate and report on the division of responsibilities in the development of nuclear energy for civil purposes. It has also been suggested that in consultation with the Hydro-Electric Power Board and private industry AB Atomenergi should be responsible for the construction or purchase of reactors. . . . AB United Shoe Machine Co. is to build a new factory for the manufacture of leather fibre sheets and fibre stiffeners.

Budapest Roads

Experiments are being carried out by a research institute of the Budapest Metropolitan Council in the construction of subsidiary roads without the use of stone, cement or asphalt. Bare earth, consolidated to the texture of asphalt by the use of chemicals, is the basic material. An experimental section of road laid at Matyasfold, not far from Budapest, is being used by several hundred lorries a day. According to a report in the daily newspaper *Szabad Nep*, the road is "springy" and binds stronger every day. Even the trace of a sharp cart wheel soon disappears. The construction method is to cut the roadway where required, then to harrow and disc-harrow the surface. A water cart sprays it with chemical solution, it is rolled, and by next day it is ready for traffic. An industrial waste-product, used sulphite lye such as is discharged by paper-mills and other cheap chemicals, are employed to set the earth which in time becomes stone-hard. It is stated that the new technique, which is very suitable for subsidiary roads and farm roads costs only a quarter of the orthodox method.

* From the Board of Trade Special Register Information Service.

Air Conditioning Equipment

*A report has been prepared by the United Kingdom Trade Commissioner in Nairobi on the market for air conditioning equipment in British East Africa. It deals with all aspects of the market and gives a list of some East African firms interested in the importation of the equipment. The report can be obtained from the Export Services Branch of the Board of Trade at Lacon House, Theobalds-road, London, WC1.

Development of Ports

*The United Kingdom Trade Commissioner at Bombay has advised the Export Services Branch of the Board of Trade that a sum of Rs. 1,50,00,000 has been allotted for the development of Bhavnagar and the very small ports in Bhavnagar State, India.

Bedi Port: It is proposed to deepen the approach channel which will involve excavation and dredging of about 2½ million cu. ft. On the extended wharf two three tons travelling type of cranes are to be installed. Navlakhi Port: A small 250 ft. x 50 ft. dry dock is proposed while the power house will be extended to accommodate additional plant as yet unspecified.

Porbanda Port: The scheme is to convert the fair weather port to an all-weather port by the building of almost a mile long breakwater. Considerable dredging involving rock removal will be required to provide a 300-ft. wide 30-ft. draught channel and necessary mooring berths for two 8,000 DW tons steamers. There will additionally be dredging to the extent of 800,000 cu. ft., most of which material will be used for land reclamation. Five three tons travelling cranes are proposed to be installed.

Veraval Port: The scheme here involves the provision of berthing facilities for fishing trawlers involving an extension to the breakwater and considerable dredging of the approach channel and the water in front of the fishing craft quays. In all rock removal and dredging of 3,727,000 cu. ft. is involved. Interested firms should telephone Chancery 4411, ext. 776, quoting ESB/6616/56 for further details.

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Exhibition in Kenya

*The United Kingdom Trade Commissioner in East Africa has reported that the Muslim Association of Mombasa in co-operation with the Mombasa Chamber of Commerce and Agriculture, and the Indian Merchants' Chamber has decided to revive under its auspices the Mombasa Exhibition of Trade, Industry and Agriculture. The exhibition will be held at Princess Park, Nyali, in the Mombasa Harbour district, for four days from August 22 to 25.

Intending exhibitors should send full details of their space requirements to the Hon. Sec., Mombasa Exhibition, P.O. Box 583, Mombasa, as soon as possible. The Exhibitions and Fairs Branch of the Board of Trade, Lacon House, Theobalds-road, London, WC1. (Telephone: Chancery 4411, ext. 421) will be pleased to answer any inquiries about this exhibition. Quote reference E. & F. 306/55.

Tiles, USA

*Mr. Wilbert B. Buchman, of the W. B. Buchman Co., 923, East Third-street, Los Angeles 13, California, would like to contact UK manufacturers of ceramic tiles, especially floor, wall and exterior tiles. His firm would consider acting as selling agents for UK firms, or in contracting for the outright purchase of their material, depending on which arrangement might be most satisfactory. Manufacturers interested should write by airmail direct to Mr. Buchman, quoting cif prices in US currency. It would be appreciated if they would copy their initial correspondence to the British Consulate-General, 448, South Hill-street, Los Angeles 13, California, so that the inquiry may be pursued. More details from Chancery 4411, ext. 776, quoting ESB/21212/54.

Building Supplies, USA

* The J. R. Burtis Company, Room 2800, The Foshay Tower, 821, Marquette-avenue, Minneapolis 2, Minnesota, are interested in representing, on a commission basis, UK manufacturers of metal toilet partitions; aluminium windows; wood folding doors; plastics folding doors, and any other manufactured items that go into large construction.

Manufacturers interested in this agency inquiry should write by airmail direct to Mr. J. R. Burtis, of the company. All possible brochures and illustrations should be sent and price quotations should be made in American dollars and cents only, c.i.f. US port. Quote ESB/628/55 in telephone inquiries to Chancery 4411, ext. 776.

Building Materials, India

* Gladstone Lyall and Company, Limited, 4, Fairlie-place, Calcutta, wish to represent in India UK manufacturers of heat- and sound-absorbing boards and any patent building materials for use in the tropics. The firm wish to deal on a consignment basis if possible, but are also interested in a commission or purchasing basis.

Manufacturers interested in this agency inquiry should write direct to Gladstone Lyall and Company, Limited. Telephone inquiries to Chancery 4411, ext. 776, quoting ESB/7889/56.

The SCOTTISH BUILDER

United States Firm at Lanark

THE Caterpillar Tractor Company, Ltd., a subsidiary of a large American concern with headquarters at Peoria, Illinois, have fixed the middle of 1958 for the start of production at the factory they are to build near Bellshill, Lanarkshire. During the first phase of operations the factory would have about 1,500 employees and would aim to produce 1,500 tractors a year, 1,000 weighing five tons and 500 weighing 18 tons. The total value would be about £5,000,000.

It was estimated that about 75 per cent. of the output in Scotland is to be exported, and this would mean a considerable saving in dollars for the countries concerned. The factory would also be in direct competition with the parent company.

The factory could not have been brought to Scotland, Mr. W. J. Bornholdt, managing director has said, but for the co-operation of Colvilles, Ltd., who were proceeding with developments costing £20,000,000 at Motherwell. Colvilles had agreed to roll the highly specialised steel required.

The first building to be constructed is a factory of 500,000 square feet, all under one roof. This is similar to the pattern that the firm has followed in the U.S.A. during the past four years, and it is felt that this kind of building has several advantages over smaller, separate ones.

Thin-wall Construction

THE DEPARTMENT OF HEALTH for Scotland, as a move towards pointing out to architects, clerks of works and others in the building industry the need for care in certain points of thin-wall construction, have collaborated with the Building Research Station in a display at the Scottish Building Centre, Sauchiehall-street, Glasgow.

In Glasgow and in a dozen or so authorities in Scotland thin-wall work is being carried out. Thin-wall construction with its saving in bricks and simple planning makes the building of up to five storeys a simple matter. But inspection has shown during the building of three- and four-storey flats that the principles underlying such a method have not always been fully appreciated either by designers or builders.

It has also become obvious that the building techniques recommended in the British Standard Codes of Practice need to be modified to suit traditional Scottish building practice. An article on the system was given in our issue of January 27.

Glenrothes New Town

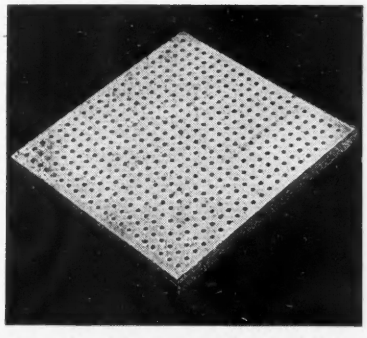
LORD STRATHCLYDE, Minister of State for Scotland, on February 3 met Sir Garnet Wilson and members of the Glenrothes Development Corporation at St. Andrew's House, Edinburgh, to discuss the future of the new town. Sir Garnet stated that his Corporation was seriously disturbed about the building standstill imposed upon them by the Secretary of State. He asked that the matter be reconsidered on the grounds that with the number of houses already built or under construction, the Corporation may be unable to meet the requests for houses likely to be made by the National Coal Board from 1956 onwards; at the same time maintaining a balanced community in the new town.

Lord Strathclyde told the deputation that the Government had in no way departed from the original conception of the new town, but he said the future of Glenrothes must be geared to the demand for housing accommodation for miners to be transferred from areas outside Fife. He assured the deputation that the Government would review the situation as soon as it became clear that immigrant miners were in fact coming forward in substantial numbers.

At the Corporation's request the Minister of State agreed to have a further meeting with them in April.

Glasgow Slum Clearance

A SCHEME costing £13m., for clearance of slum property in the heart of Glasgow has received approval by Glasgow Corporation and will now go to the Secretary of State for Scotland for confirmation. The scheme covers the Hutchesontown/Gorbals area of the city and involves clearance of 7,605 houses, most of which were built in the 1850/1890 period and are now in varying stages of dilapidation. The scheme which is visualised is the replacement by well spaced housing, with 10-storey blocks of flats included among more orthodox four-storey blocks, with approximately 50 per cent. of the reconstruction and rehousing in multi-storey flats. The present population of the area is 26,860, and when rehousing is completed 10,179 persons will be rehoused, the remainder being relocated in other parts of the city. Industrial and commercial concerns at present in the area will also be relocated although not all will be accommodated within the present boundaries.



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SCOTTISH BUILDING TRADE WAGES

FOLLOWING are rates of wages authorised by the Scottish National Joint Council as from April 16, 1956. They apply to the whole of Scotland, including the islands of Orkney, Shetland, etc.

Grade A: Craftsmen, 4s. 3½d.; Labourers 3s. 9d.

For apprentices, the rates are :

Year.	*Percentage of Craftsman's rate.*	*For week of 44 hours.* s. d.
1st	25	47 2½
2nd	33⅓	62 11½
3rd	50	94 5
4th	66⅔	125 10½
5th	75	141 7½

For female labour, the rates are :

	s.	d.
Operatives on craft operations (at end of probationary period)	3	9
Operatives on labouring operations (at end of probationary period)	3	5½

Hydro-Electric Progress

The North of Scotland Hydro-Electric Board's Annual Report for 1955 published on February 28 shows that the Board increased the potential output of their water power stations to 1,469 million units per annum.

The investigation of future hydro-electric developments continued, and the surveys for the schemes on the River Farrar in Glen Strathfarrar and the River Beauly in the Kilmorack Gorge, and on the River Awe, are well advanced. It is hoped to publish constructional schemes for these projects in 1956. Investigation continued into schemes to use the water power resources of the River Tay at Kenmore and Grandtully, the Upper Findhorn and Monadhliath Mountains, and the River Nevis. A scheme to build a dam across the outlet of Loch Laidon to regulate the flood waters from the Moor of Rannoch is also being examined. The Board are carrying out preliminary surveys of the River Snizort in Skye with a view to supplementing the electricity supply of the island which was affected by the drought.

Experimental Flats, Edinburgh

EDINBURGH PLANNING COMMITTEE have accepted a tender of £40.258 by George Wimpey for the erection of an experimental block of maisonettes at Muirhouse, Edinburgh. The object behind the experiment is to demonstrate the suitability of this type of house for families with children on central sites where a high density is clearly unavoidable. The price works out at £1,678 per maisonette of four apartments.

The plans have been prepared by the Housing Research Unit of the Department of Health for Scotland. It is considered an exercise in the use of the "nominated" contractor who has been present and consulted at every stage of the plan. The scheme when completed towards the end of the year will be thrown open to inspection by Local Authorities from all over Scotland.

Scottish Council Move

THE NEW OFFICES of the London Committee of the Scottish Council (Development and Industry) are located in Century Insurance House, 2-4a King-street, St.

James's, London, SW1. These premises provide the Council with an excellent display and exhibition centre for Scottish products. The premises were designed by Mr. Terence Verity, ARIBA, Art Director of the Associated British Picture Corporation.

NEW BUILDINGS

Ayrshire.—Plans in hands of the architects and engineers of the West Ayr Area of the National Coal Board, Blackburn-rd., Ayr, approved in principle for a comprehensive scheme (est. cost £450,000) consisting of new headquarters, canteen, laboratories, workshops, central stores and administrative block, to be erected at Sherwood-la., Glenburn.

Baillieston.—Plans in hand for the 9th development of the Muirside housing scheme consisting of 56 houses. A: Samuel MacColl (A), Planning and Architectural Dept., County-bldgs., Beckford-st., Hamilton West.

Bellshill.—Plans in hand for the 4th development of the East Parkhead housing site consisting of 130 houses. A: Samuel MacColl (A), Planning and Architectural Dept., County-bldgs., Beckford-st., Hamilton West.

Castle Douglas.—Plans to be prepared for new Protestant prim. sch. A: George Bartholomew (A), County-bldgs., Dumfries.

Dundee.—Plans approved for 18 houses in three- and four-storey tenements at Moncur-cres. and Abbotsford-st. A and QS: Robert Dron (A) and James A. F. Morrison, FSI, Master of Works Offices, Municipal-bldgs., City-sq., Dundee, Forfarshire.

East Kilbride.—Plans in the hands of the architects of Scottish Industrial Estates, Ltd., 3, Woodside-pl., Glasgow, WC3, for new buildings at the Industrial Estate, Nerston.

Edinburgh.—Plans approved for new Catholic prim. sch. at The Hutchieston Crossway (est. cost £67,000). Council A: Alexander Steel (F), City Chambers, Parliament-sq., Edinburgh.

Forfarshire.—Plans approved for 320 houses at the St. Marys and the Clemont Park housing development sites. A and QS: Robert Dron (A) and J. A. F. Morrison (F), Master of Works Offices, Municipal-bldgs., City-sq., Dundee.

Glasgow.—Plans prepared for the Archdiocese of Glasgow, Park-ter., for new Catholic church at the housing development site, Castlemilk. A: Thomas S. Cordiner (F), Blythswood-chbrs., West George-st., Glasgow, WC2.

Glasgow.—Plans are to be prepared for new scheme of baths at Stevenston-st., Calton, for which the Corporation has three schemes under consideration estimated to cost £120,000, £110,000 and £95,000. A: James Macmillan Riddet, Planning and Architectural Dept., Municipal-bldgs., George-sq., Glasgow, C1.

Glasgow.—Plans to be prepared for an extension at Lawmuir Agricultural College (est. to cost £112,000). A: John Macnab (F), Planning and Architectural Dept., Bath-st., Glasgow, WC2.

Glasgow.—Plans in hand for new school at site No. 2 at Garthmunnock. A: Alexander B. Campbell (A), 129, Elderslie-st., Glasgow, WC3.

Glasgow.—Plans prepared for The Scottish Special Housing Association, Ltd., for eight four-storey buildings, 105 three-, and 64 four-apartment houses at the Kerrycroy-ave. and Ardnahoe-ave. housing site. A: J. Austen Bent (A), 15, Palmerston-pl., Westend, Edinburgh.

Glasgow.—Plans in hand for new school and two houses at the Garthmannock housing development site. Council A: John Macnab (F), Education Planning and Architectural Dept., Bath-st., Glasgow, WC2.

Glasgow.—The Corporation has appointed Messrs. William H. Dunsmuir & Son (F), quantity surveyors, 102, Bart-st., for the additions and alterations at the Dovehill Public School.

Glasgow.—Plans approved for new additions and alterations for Ritchie & Osbourne, Ltd., at The Candleriggs. A: Magnus Duncan (F), 243, Eglinton-st., Glasgow, SC5.

Glasgow.—Plans approved for additions and alterations for J. W. Souter at Cumberland-rd. and Crown-st. A: William Graham (F), 30, Newmarket-st., Falkirk, Stirlingshire.

Glasgow.—Plans in hand and being considered by the Corporation for new building at Dawson-rd., C4. A: Walker & Smith (F), 180, West Regent-s., Glasgow, WC2.

Hamilton.—Plans in hand for additions at the Protestant Public Sch., Wellhall-rd. A: William R. Watt (F), Planning and Architectural Dept., Albert-st., Motherwell-Wishaw.

Lanarkshire.—Plans in hand for the Glasgow Stamp Co., Ltd., Drumbrae-rd., Rutherglen, for new extensions. A: Charters & Hill, 13, Woodside-cres., Glasgow, WC3.

Lanarkshire.—Plans prepared by the architects of The Caterpillar Traction Co., Ltd., Leicester, for new factory buildings at Tannockside. Mackay, Murray & Spence, 169, West George-st., Glasgow, WC2, are the applicants.

Lanarkshire.—Plans in hand for a comprehensive scheme of layout of the Drumpallier and Mount Vernon estates for new residential purposes. A: John Sinclair (F), Drumpallier Estate Offices, Coatbridge.

Lochay.—Plans prepared by the architects of North of Scotland Hydro-electricity Board, 16, Rothesay-ter., Westend, Edinburgh, for new additions at the power station (est. cost of £330,000). Prin. contrs.: Thomas Gobbie & Sons, Ltd., 180, West Regent-st., Glasgow, WC2.

NEW COMPANIES

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

E. C. Sames & Co., Ltd. (558257.) Regd. December 6, 3, Newcomen-st., SE1. Bldrs., contrs., etc. Nom. cap.: £25,000. Dir.: W. R. Lincoln.

F. H. R. Jones & Sons (Newton-le-Willows), Ltd. (558259.) Regd. December 6, 114, Ashton-rd., Newton-le-Willows, Lancs. Bldrs., etc. Nom. cap.: £5,000. Permt. dir.: F. H. R. Jones.

Tanner & Tomlin (Bldrs.), Ltd. (558406.) Regd. December 8, 22, Bancroft, Hitchin, Herts. Bldrs., etc. Nom. cap.: £2,000. Dir.: M. H. Tomlin.

R. L. Brightman, Ltd. (559291.) Regd. Dec. 28, 1955. Alexandria-rd., W. Ealing, W13. Bldrs., contrs., etc. Nom. cap.: £500. Dir.: R. L. Brightman, Ticonderoga, Heath End, Gt. Kingshill, Bucks.

Blythe & Allen, Ltd. (559190.) Regd. Dec. 24, 1955. Bldg. and civil engng. contrs., etc. Nom. cap.: £3,000. Dir.: G. R. Blythe, 11, Nelson-st., Norwich.

Daniel Day & Son, Ltd. (559201.) Regd. Dec. 24, 1955. Bonchurch, IoW. Bldrs. and contrs. Nom. cap.: £2,000. Dir.: S. G. Ball, Padmore House, Whippingham, IoW.

Elsby Bros., Ltd. (559209.) Regd. Dec. 24, 1955. Sneyd Hill, Burslem, Stoke-on-Trent. Civil engng. and bldg. contrs., etc. Nom. cap.: £30,000. Dir.: G. H. Elsby, 62, The Avenue, Harpfields, Stoke-on-Trent.

J. Banks & Sons (Builders), Ltd. (559218.) Regd. Dec. 24, 1955. 307a, Manchester-rd., Blackrod, Lancs. Nom. cap.: £5,000. Dir.: J. Banks.

Taycar, Ltd. (559247.) Regd. Dec. 24, 1955. 41, Granby-st., Loughborough. Bldrs. and bldg. contrs., etc. Nom. cap.: £5,000. Dir.: D. B. S. Taylor, 153, Derby-rd., Loughborough.

County Contractors (AEB), Ltd. (559256.) Regd. Dec. 24, 1955. 57b, Sydenham-rd., Guildford, Surrey. Bldrs. and decrs. Nom. cap.: £100. Dir.: A. E. Baker, 53, Brooke Forest, Fairlands Est., Guildford, Surrey.

Oakhurst Lodge Homes, Ltd. (559259.) Regd. Dec. 24, 1955. 9, Cavendish-sq., W1. Bldrs., etc. Nom. cap.: £20,000. Sub.: G. R. Evans, 45, Walterton-rd., W9.

Planning and Surveys, Ltd. (559179.) Regd. Dec. 23, 1955. 1, Church-ter., Richmond, Surrey. Bldrs., bldg. contrs., etc. Nom. cap.: £100. Sub.: Mrs. C. E. Addison, 371, Clapham-rd., SW9.

S. R. Bowell & Son, Ltd. (559182.) Regd. Dec. 23, 1955. Bldrs., etc. Nom. cap.: £10,000. Dir.: S. R. Bowell, Hunters Forstal-rd., Herne Bay, Kent.

H.B. Formings (CH), Ltd. (559059.) Regd. Dec. 22, 1955. Endurance Works, Newtown-la., Cradley Heath, Staffs. Bldrs. and plumbers. Nom. cap.: £5,000. Dir.: D. Bate, Bothy, Bowling Green-rd., Old Hill, Staffs.

John Bridges (Builders), Ltd. (559065.) Regd. Dec. 22, 1955. Nom. cap.: £5,000. Dir.: J. T. R. Bridges, 153a, Wokingham-rd., Reading, Berks.

Sinton, Thompson & Ptnrs. (Northern), Ltd. (559082.) Regd. Dec. 22, 1955. Dock Meadow-dr., Lanesfield, Coseley, nr. Wolverhampton. Civil engng. and bldg. contrs. Nom. cap.: £2,000. Dir.: J. M. Sinton, Danesmoor, Tettenhall, Staffs.

One Thousand Pounds Houses, Ltd. (559149.) Regd. Dec. 23, 1955. 12, Bridewell-pl., EC4. Bldrs. and contrs., etc. Nom. cap.: £100. Dir.: G. S. Ryan, 28, Wolsey-rd., Moor Park, Northwood, Mdx.

The Builder

FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

APRIL 18.

***†Selby UDC.**—30 houses at Stainer Wood estate. G. L. Thompson (F), Clifton-chbrs., Park-st., Selby. Dep. £2 2s.

APRIL 23.

***†Hertford BC.**—(a) 45 houses and one pair of bungalows at Sele Farm estate; (b) 57 flats at Sele Farm estate. E. C. Harris & Ptnrs., quantity surveyors, 3, Bedford-sq., London, WC1. Dep. £2 2s. each contract. Tenders for (a) by May 7 and (b) by June 12.

APRIL 25.

***†Enfield BC.**—Block of 4 houses at junction of Bilton-way and Bideford-rd. BE, 7, Little Park-gdns. Dep. £2 2s. Tenders by May 23.

APRIL 28.

***†Essex CC.**—Additions, Romford Cty. High Sch. County A, Chelmsford.

Golborne UDC.—60 traditional type houses at Culcheth. E&S, Lowton, nr. Warrington. Dep. £5 5s.

***Oldham CB.**—91 houses at Alt estate. Cameron & Middleton, 21, Queen-st., Oldham. Dep. £2 2s. (cheques payable to Boro' Treas.).

APRIL 29.

***†Wolverhampton CB.**—98 dwellings at Willenhall-rd. North estate. BE, Town Hall. Dep. £2 2s.

APRIL 30.

***†Cambridge City C.**—17 shops and 31 flats at Arbury-rd. estate. City S, The Guildhall. Dep. £2 2s. Tenders by May 25.

***East Riding CC.**—Four police houses at Hull-rd., Beverley. County A. Dep. £2.

***Eccles BC.**—12 flats, Ellesmere Park estate. BE&S. Dep. £2 2s.

***†Essex CC.**—Additions, Aveley Cty. Sec. Sch. County A, Chelmsford.

***†Kingston-upon-Thames Royal Boro'.**—16 flats at junction of Burritt-rd. and Cambridge Grove-rd. TC, Guildhall. Dep. £2 2s.

***†Worcs CC.**—Erection of College of Further Education at Well-la., Bromsgrove. F. R. S. Yorke, E. Rosenberg and C. S. Mardall, 2, Hyde Park-pl., London, W2. Dep. £2 2s.

MAY 1.

***Chingford BC.**—Four flats, Chivers-rd. BE. Dep. £2 2s.

Clacton UDC.—(a) Waterworks depot, and (b) pair of houses at Bockings Elm, Clacton-on-Sea. Either or both. Water Engr. and Mangr. Dep. £1 1s. each contract.

***Guildford BC.**—Conversion of "Tyting House," Halpenny-la., into 2 houses and 2 flats. BE&S. Dep. £2 2s.

MAY 2.

***Crosby BC.**—16 maisonettes at Gladstone-rd., Seaforth. BE&S, Town Hall, Waterloo, Liverpool, 22. Dep. £2 2s.

***Morecambe and Heysham BC.**—31 housing units at Railway-ave. BE&S, Town Hall. Dep. £1.

MAY 3.

***†Portsmouth City C.**—(a) Alterations, etc., to Southsea mod. girls' sch., Francis-ave.; (b) depot, Leigh Park. City A, 1, Western-parade. Dep. £1 each contract.

MAY 4.

***Beckenham BC.**—Three houses, Dorset-rd. James Dove, BE&S. Dep. £2.

***†Portsmouth City C.**—(a) 30 flats at Allaway-ave., Paulsgrove; (b) 15 flats at Hambrook-st., Southsea; (c) rebuilding Foster Hall, Milton; (d) resurfacing playgrounds at various schools. City A, 1, Western-parade. Dep. £1 each contract.

***Uttoxeter UDC.**—24 houses at Byrd's-la. E&S, Old Bank House, 72, High-st. Dep. £2 2s.

MAY 5.

Evesham BC.—46 traditional houses at Fairfield No. 7 site. Pemberton & Bateman (F/A), Council's A, 21, Vine-st., Evesham. Dep. £2 2s.

Newtown and Llanllwchaiarn UDC.—Completion of 16 houses and erection of block of four additional houses at adjoining site at Canal-rd. housing site. A, Stanley Hill, Cel's A, Communiy House, Newtown. Dep. £2 2s.

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MAY 7.

*East Barnet UDC.—18 and 20 houses. E&S. Dep. £2 2s. each contract.

*Lincoln (Kesteven) C.C.—Building reorganisation. Glebe Farm, Blankney Fen. County Land Agent, Sleaford.

MAY 9.

*Bebington BC.—44 houses at Teehey-la. estate, Higher Bebington. BE&S, Municipal Offices. Dep. £3 3s.

*Bletchley UDC.—Erection of factory No. 10 at Council's Industrial estate off Watling-st. E&S, Council Offices. Dep. £5.

*Watford RDC.—Four flats and 8 lock-up garages, Anthony-close, Green-la., Oxhey. Dawe, Carter & Ptnrs., architects, 33, Clarendon-rd. Dep. £1 1s.

MAY 10.

*Bournemouth CB.—Extension Borough Mortuary, Littledown-rd. Boro' A. Dep. £2 2s.

MAY 11.

*†Sevenoaks RDC.—(a) Two pairs of houses; (b) one block of 4 flats at Four Elms (No. 3 site), Hever. E&S, Inglewood, Oak Hill-rd. Dep. £2 2s.

*Wood Green BC.—40 maisonettes, Crescent-rise. BE. Dep. £2 2s.

MAY 12.

*Bootle CB.—Erection of girls' sec. sch., Brown-la., Netherton. BS. Dep. £2 2s.

MAY 14.

*Cardiff City C.—63 dwellings and siteworks at 5 sites. City S, City Hall. Dep. £2 2s.

*Cardiff City C.—Five shops with maisonettes over, 5 garages and incidental siteworks at Burnham-ave., Llanrumney. City S, City Hall. Dep. £2 2s.

MAY 15.

*Bournemouth CB.—Houses and bungalows at West Howe estate. (a) Contract W.H. 10(a) 2 houses and 8 bungalows; (b) Contract W.H. 8(B) 8 houses; (c) Improvements to 20 flats and 12 houses at Southill estate. Boro' A Office (Room 106). Dep. £2 2s. each contract.

MAY 24.

*Rowley Regis BC.—70 houses, Congreave's estate. A, Municipal Offices. Dep. £3 3s.

MAY 25.

*Brighouse BC.—Following works. Contract 49—3 houses and 2 old persons' bungalows at Stoney-la. estate, Lightcliffe; contract 58—16 single persons' flats at Field-la. estate, Rastrick; contract 59—10 houses at Field-la. estate; contract 50—16 houses at Field-la. estate. BE&S, Commercial-st.

*Ealing BC.—Four blocks of three-storey flatlets at Elers-rd. BS, Town Hall. Dep. £2.

*Ealing BC.—18 flatlets at 68-70, St. Marv's-rd. BS, Town Hall. Dep. £2.

*West Riding Standing Joint Committee.—Police premises at various sites. County A, " Bishopgarth," Westfield-rd., Wakefield. Dep. £2 2s.

MAY 31.

*Richmond (Surrey) BC.—Block of two 2-bedroom flats at Raleigh-rd. BE, Hotham House, Heron-court. Dep. £3 3s.

JUNE 7.

*Wood Green BC.—House, adjoining 1, Torrington-gdns. BE. Dep. £1 1s.

NO DATE.

*Bridlington BC.—59 houses at West Hill estate. TC, Town Hall. Dep. £3 3s.

PAINTING, MATERIALS, ETC.

APRIL 30.

*Brierley Hill UDC.—External painting 1,155 houses. J. R. Moore (A), Architect and Housing Director. Dep. £2 2s.

MAY 2.

*Deptford BC.—(a) External decorations to housing properties; (b) council establishments; and (c) maintenance repairs and decorations to requisitioned properties. BE&S. Dep. (c) £2.

MAY 11.

*Esher UDC.—External repainting houses. E&S. Dep. £1 1s.

MAY 12.

*Southport CB.—Internal and external painting to schools and kitchens. Chief E. Officer, 99-105, Lord-st.

MAY 14.

St. Albans City C.—External painting of 340 houses and 23 garages. City E&S, 16, St. Peter's-st. Dep. £3 3s.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

APRIL 30.

Derbyshire CC.—2½ miles new road comprising earthworks, drainage, dual 24-ft. carriageways of either flexible or non-flexible construction, service roads, retaining walls and other ancillary works, including 40-ft. span prestressed concrete bridge, brick-faced mass concrete abutments and wing walls. County S. Dep. £15 15s.

Holderness RDC.—Construction of ejector station with 330 lin. yds. 4-in. and 6-in. dia. earthenware pipe sewers, with manholes, 150 lin. yds. 4-in. dia. cast-iron rising main, sewage disposal works, etc., at North Skirlaugh, nr. Hull. John Dossor, MICE, Col's consltg. engr., Monk Bar-chbrs., York. Dep. £3.

Lindsey CC.—2¾ miles new highway forming diversion of Route A15 (Lincoln-Brigg road) near Scampton Airfield. Works include fencing, excavation, drainage, formation of embankments, construction of carriageway, concrete channelling, etc. County S, Lincoln. Dep. £2 2s.

Newport (Mon) CB.—Advance preparation works at Ringland Top Development (120 acres approx.) including site clearance, construction of stone pitched and granular based carriageways, soil and s.w. sewers and ancillary works. Boro' E. Dep. £5 5s.

Solihull BC.—Widening of Lode-la. canal bridge over Warwick and Birmingham canal on Sheldon to Solihull Class III road, including extension of existing bridge abutments in r.c., construction of r.c. beams and slabs as bridge decking, approach roads, s.w. drainage, etc. Maximum span 55 ft. and overall width 52 ft. Boro' E&S, 90, Station-rd. Dep. £2 2s.

Tonbridge UDC.—Widening and reconstruction of Higham-la., including half mile new carriageways, footpaths, kerbing and s.w. drainage. E&S. Dep. £3 3s.

MAY 1.

Government of Northern Ireland.—Construction of two bridges, each with two spans of 40 ft. length, over proposed north approach road, five miles north of Belfast Head Post Office. Ministry of Commerce (Transport Divn.), Room 67, Chichester House, Chichester-st., Belfast. Dep. £5.

Sunderland CBC.—1,000 lin. yds. 18-in. to 15-in. dia. concrete tube sewers and 12-in. to 6-in. dia. stoneware salt-glazed pipe sewers and laying of 12,000 sq. yds. concrete carriageways at Lawrence-st. redevelopment area. Boro' E. Dep. £5 5s.

MAY 5.

Castleford BC.—Trunk water main from Wain Dike to Redhill reservoirs—5,200 lin. yds. 21-in. dia. and 40 yds. 15-in. dia. spun-iron bolted gland flexible jointed pipes; 100 lin. yds. 6-in. dia. spun-iron screwed gland flexible jointed pipes, valves, specials and ancillary works, including reconstruction of meter-house at Wain Dike and construction of pipe bridge. Boro' E&S. Dep. £2 2s.

MAY 7.

Belford RDC.—2,140 lin. yds. 9-in. and 6-in. stoneware pipe sewers and all appurtenant works at North Sunderland. S. Dep. £3 3s.

Lancashire CC.—Widening and reconstruction of Ledson's canal bridge, carrying Class III road No. 720 over Leeds and Liverpool canal at Melling, West Lancs. Work comprises demolition of masonry arch bridge and construction of new bridge 40 ft. span and 33 ft. 6 in. wide between parapets, having mass concrete abutments and wing walls and prestressed concrete deck, together with formation of new embankment. County S., Preston. Dep. £2.

Newark-on-Trent BC.—660 lin. yds. 9-in. dia. stoneware sewers, 13,000 sq. yds. pitched roads, 11,000 sq. yds. bituminous surfacing and 7,500 sq. yds. footways at Hawton estate. Boro' S. Dep. £2 2s.

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North of Scotland Hydro-Electric Board.—2,250 lin. yds. 45-in. dia. precast concrete pipes, ancillary structures, weirs, intakes, etc., forming Allt an t-Sluie aqueduct at Dalwhinnie. Sir Alexander Gibb & Ptnrs., engrs., 43, Northumberland-st., Edinburgh, 3, or Queen Anne's Lodge, Westminster, SW1. Dep. £5.

MAY 8.

Sutherland CC.—Construction, reconstruction and resurfacing of road and bridge works for 4¼ miles from Rhiconich to Gualin on Route A.838. County Road S, Brora. Dep. £3 3s.

MAY 9.

Wellington (Som) RDC.—Construction of Hillsmoor sewage disposal works, Wivelscombe, Som., including reconstruction of existing tanks and ancillary works. Harvey, McGill & Hayes, Col's consltg. engrs., 8, Richmond-rd., Exeter. Dep. £3 3s.

MAY 10.

Karachi Port Trust.—Five r.c. transit sheds of alternative (1) shell-type roof and (2) flat roof designs. Chief Engr., Karachi Port Trust. Dep. Rs. 250/- (non-refundable), or Rendel, Palmer & Tritton, Trustees' Consltg. Engrs., 125, Victoria-st., SW1. Dep. £20 (non-refundable).

MAY 12.

Aberdeen City Corporation.—Design and construction of concrete roof 274 ft. 9 in. in diameter, with appropriate supporting columns, for Slopefield service reservoir. City E, Water Dept.

MAY 14.

*Cuckfield RDC.—Carriageway and sewers, Hassocks housing site No. 5. E&S. Dep. £2 2s.

Essex River Board.—Sluice channel improvement and ancillary works at Barking and Dagenham, Essex, including low level r.c. culvert 12 ft. 6 in. by 9 ft. x 100 ft. long, with r.c. headworks and sheet steel piled outfall flume 90 ft. long across foreshore; excavation and disposal of 95,000 cu. ft. spoil from approach channel and reservoir; construction of small culverts and ancillary works. E, 129, Springfield-rd., Chelmsford. Dep. £5.

Lincolnshire River Board.—Sea defence works—Concrete sea wall with steel toe piling for 1,000 ft. south from Jackson's Corner, Ingoldmells, nr. Skegness, with all ancillary works and placing of 100 ft. gabion work at south end. C of Board, 50, Wide Bargate, Boston, Lincs. Dep. £5.

Ruthin RDC.—(a) 30,000 lin. yds. 7-in. to 2-in. dia. water mains in asbestos-cement pressure pipes laid through moorland, field, road verge and carriageway from Pen Dinas filter house to Accre, Pentre Celyn and Bryneglwys and from Rhydtalog to Graianrhyd and Erryrys; (b) r.c. covered service reservoir, 300,000 gals. capacity, with access roads, paths and fences; (c) r.c. covered service reservoir 75,000 gals. capacity, with paths and fences and certain provisional works at Moel Fammau and Llanarmon pumping station, all ancillary works, restoration of all surfaces and maintenance for six months. Sir Herbert Humphreys & McDonald, consltg. engrs., 276, Monument-rd., Edgbaston, Birmingham. Dep. £5.

MAY 18.

Devizes RDC.—8,200 lin. yds. 15-in. to 6-in. sewers, 130 concrete tube manholes, sewage disposal works for 2,300 persons; sewage pumping station and 250 lin. yds. 4-in. rising main at Easterton, Market Lavington and West Lavington. Harvey, McGill & Hayes, Col's consltg. engrs., 38, Market-pl., Chippenham, Wilts. Dep. £5.

JUNE 2.

Lindsey CC.—(1) Construction of new swing bridge on Sheffield and South Yorkshire canal at Keadby, four miles west of Scunthorpe, comprising r.c. substructure, including piling, and the provision and erection of electrically operated welded steel swing bridge with all controls and ancillary works. (2) Alterations to Bardney bridge over River Witham, ten miles east of Lincoln, consisting of strengthening existing 100-ft. span lattice girder bridge by means of piled concrete supporting frames and provision of new welded steel plate deck and cantilevered footway. Wilton & Bell, 25, Victoria-st., SW1. Dep. £3 each contract.

GENERAL BUILDING WORK

(LONDON)

Kensington.—MAISONETTES AND FLATS.—Council is to develop a site at St. Helen's school, Oxford-gdns. and Latimer-rd. by the erection of 8 maisonettes and 6 flats. Quantity surveyors are A. S. Wilson & Ptnrs., 8, Storeys-gate, SW1.

Leyton.—FLATS.—Essex CC has given Leyton Council permission to build 30 flats at King Edward-rd.

Pinner.—FLATS.—40 two-bedroom flats are to be built in Pinner by Harrow Council.

Sidcup.—DWELLINGS.—Chislehurst and Sidcup Council have approved a development of land at Maylands-drive costing £338,250 for 206 dwellings. The developers are S. A. Gregory, Ltd., 96, Piccadilly, London, W1.

Tooting.—SCHOOL.—LCC is to build a county secondary school in Beechcroft-rd., Tooting, for 1,000 boys which is estimated to cost £370,000.

(PROVINCIAL)

Abram.—UDC proposes erection of 24 houses and 16 flats at Talbot-rd.

Aldridge.—UDC proposes two-storey block of 8 flats and four-storey block of 20 flats at Pheasey estate.

Alfreton.—UDC plans to build 80 houses at former opencast coalmining site.

Altrincham.—TC proposes 8 single-bedroomed flats at Oldfield Brow and layout for 12 aged persons' dwellings at The Grange estate.

Ashton-in-Makerfield.—UDC seeks loan £32,110 for erection of 22 houses at Bryn Station housing site.

Astley.—Lancs. EC proposes erection of new RC sec. boys' and girls' schools at west side of Manchester-rd.

Atherton.—UDC proposes erection of houses for aged persons at site between Mealhouse-la. and Factory-st.

Barnsley.—TC approved plans for erection of 45 houses and 8 garages at Intake estate for W. Dunk & Sons, Ltd., Peel-st.

Batley.—West Riding CC approved plans for rehabilitation of Hanging Heaton CofE sch., £12,332 est.

Billingham, Co. Durham.—UDC obtaining tenders for 307 houses in various groups at Roseberry-rd. estate, and six in Marsh House-ave. S: J. H. Shepherd.

Birkenhead.—EC received Ministry approval for a Junior Department of Our Lady and St. Edward's RC Primary School. Approved scheme for extensions and alterations at Mersey Park Infants' School.

Birkenhead.—TC approved reconstruction of Little Theatre at Grange-rd. West for Little Theatre Co. £10,000 est.

Birmingham.—MofH has agreed to development of area between Easy-row, Broad-st., Sheepcote-st. and Gas-st. as civic centre. City A.

Birmingham.—Clearing of second site of corporation's Bath-row redevelopment scheme is proceeding and plans are in hand for flatted factory adjoining Rowland Hartrick building in Blucher-st.

Blackburn.—TC to erect new factory with a floor area of 18,360 sq. ft. at Whitebirk-dr. for Tufting Machinery Co., Ltd.

Bristol.—Proposed St. Bernadette R.C. sec. sch. at Knowle, £137,820, included in EC's 1956-7 programme.

Burnley.—BC received Ministry approval for new crematorium.

Bury.—TC to invite tenders for completion of 7 partially finished rooms at Technical College, Market-st.

Carlisle.—City C to build another 250 houses and City E (L. J. A. Stow), 18 Fisher-st., to prepare plans and estimates. Tenders will be obtained for part of the work.

Chapel-en-le-Frith.—RDC proposes erection of 6 bungalows at Edale and 12 maisonettes at Park site, Chapel.

Chester.—EC approved preliminary plans and estimate for Plas Newton jun. sch.

Chesterfield.—BC approved plans, 58 houses and 28 flats at Boythorpe-rd. To invite tenders for 18 houses at Keswick-dr., 6 at Bowness-rd., and 6 at Dunston-la.

Crewe.—TC approved erection of 90 flats at Naylor-st.

Cumberland.—EC proposes improvements at following schools:—Harrington Junior, £10,000 est; Seascale, £15,500 est.; and Skelton, £10,000 est.

Darlington.—R. Brown, 123 Victoria-rd., Darlington, is architect for new premises to cost £18,000 for Darlington Railway Athletic Club. Work will commence soon.

Dumfries.—150 houses to be built in connection with new atomic power station. A: L. J. Couves & Ptnrs. (F), Carlisle House, Newcastle upon Tyne, 1.

Durham.—CC proposes sec. mod. sch. at Kepier.—City Council considering sites for erection of theatre for Durham Dramatic Society, Ltd.—Durham City Rugby Football Club is also considering the erection of a new club house.

Easington.—RDC has received Ministry approval in principle for pavilion at Grimdon pleasure grounds, £80,000 est. S.

Felling, Co. Durham.—UDC is seeking loan sanction for £141,458 for 84 flats, and £8,608 for six houses at Leam-la. estate, and is to obtain tenders for first stage of reconstruction of Council depot in Abbotsford-rd.—Ravenseft Properties, Ltd., London, are to commence work soon on erection of 16 shops at Leam-la. estate, to be followed later by another seven shops. A: Lionel H. Fewster & Ptnrs. (L), 22 Conduit-st., W1.

Gateshead.—Plans approved for offices at Team Valley trading estate for S. T. Tayler, Ltd., North Eastern Trading Estates, Team Valley, Gateshead.—Bywell & Co., High-st., propose to build furnishing stores and showrooms at Warwick-st. A: C. Solomon (F), St. Marys-pl., Newcastle.—Clyde Crane & Booth, Ltd., crane makers, propose to build production shops and drawing and design offices.—Plans approved for new business premises at High-st. for Renben Bros., Ltd. A: Eltringham & Lowes (A), Derwent-st., Blackhill, Consett, Co. Durham.

Golborne.—UDC to erect 60 houses at Hampton estate for UK Atomic Energy Authority.

Gosport.—HC approved plans for 24 one-bedroomed flats at Rowner No. 3 housing estate.

Hartlepool.—TC to negotiate prices with Atter & Davison, Bruce-cres., Hartlepool, for erection of 20 houses near King Oswy-dr.—Plans for ambulance depot at Bond-st., for Durham CC approved. County A.

Hexham.—RDC to build 50 houses at Corbridge. A: W. Dixon & Sons, 1 Collingwood-st., Newcastle.

Lancs.—CC proposes erection of new sec. sch. at Butterworth-la., Chadderton.

Leeds.—TC approved layout plans by City A for Tinshill estate, Area No. 3.

Leeds.—Draft plans for new three-storey Worsted Block at Wool Industries Research Assn. headquarters at Headingley approved by development committee, £120,000 est.

Leeds.—EC to prepare plans for combined maternity and child welfare centre and schools clinics at Seacroft and Belle Isle estates, and health centre at York-rd.

Leek.—UDC approved layout for 40 flats and 2 bungalows at Westwood Heath-rd.

Lichfield.—Licensing Justices approved plans for new public house at junction of Wheel-la./Grange-rd. for Atkinsons Brewery, Ltd., Queens-rd., Birmingham.

Lindsey.—EC approved schemes for extensions to Gainsborough and North Lindsey (Scunthorpe) technical colleges, £110,000 est.

Liverpool.—Reg. Hosp. Bd. proposes formation of cardiological unit at Sefton General Hospital, £30,200 est.

Luton.—Workshop 13,500 sq. ft. is planned in connection with comprehensive research and test centre now being constructed at Chaul End by Vauxhall Motors, Ltd. Maurice Platt, Chief Engr.

Manchester.—Plans approved: New RC sec. mod. sch. between Alworth-rd. and Chain-rd., Blackley, for Rev. George Rudrof. A: Weightman & Bullen (F), 76 Rodney-st., Liverpool; RC sec. sch. at site bounded by Welbeck-st., Blanshard-st., Coupland-st. and Boundary-la., Greenheys, for Rev. J. H. Doyle. A: A. F. Farebrother (A), Seymour-gr., Manchester; Factory and offices for chemical engineering to west of Shady-la. and Floats-rd., Baguley, for W. Openshaw, Ltd.; Additional storey to research laboratories at Coupland-st. Chorlton-on-Medlock, for University of Manchester. A: Harry S. Fairhurst & Son (A), 55 Brown-st., Manchester.

Matlock.—UDC approved plans for adaptation of Smedleys Hydro as new county offices for CC and for new grammar sch. at Asker-la. for CC.

Middlesbrough.—Newcastle-on-Tyne Reg. Hosp. Bd., Benfield-rd., Newcastle-on-Tyne, to negotiate contract for steelwork for proposed accident and orthopaedic wing at Middlesbrough General Hospital. Also proposed to convert No. 22 Belle Vue-gr. into extension for St. Luke's Hospital. Board's Chief A.

Netherton, nr. Liverpool.—PC Council propose new church and school.

Newcastle upon Tyne.—Faculty of Arts building to be built at Queen Victoria-rd., by King's College A: W. B. Edwards & Ptnrs. (F), 56, Eldon-pl.

Newcastle upon Tyne.—Revised plans for warehouse, etc., in Dinsdale-pl. and Warwick-st., for J. M. and J. Bartlett, Ltd., and Tyne-Taxis, Ltd., have been approved. A: Newcombe & Newcombe (A), 23 Eldon-sq., Newcastle.

Northumberland.—EC approved final plans by P. L. Browne, Son & Harding (F), Pearl-bldgs., Northumberland-st., Newcastle, for Morpeth county sec. sch., £239,000, and by Mauchlen, Weightman & Elphic (F), 12 Saville-row, Newcastle, for Tweedmouth county sec. sch., £136,000. QS: Allen & Hill, Tankerville-ter., Newcastle upon Tyne.

Nottingham.—Samuel Smith, Ltd., Tadcaster, propose new licensed premises at Bawtry-rd., Harworth. A: J. Haslam & Sons, 5 Newcastle-ave., Worksop.—EC to include in 1956/7 programme: Fernwood sec. mixed sch.; Bestwood infants'; Clifton comprehensive for boys; Bestwood jun. and Phase 1 and 2 of new People's College of Further Education.

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Nuneaton.—TC approved layout for flats, maisonettes, houses and three shops at Cauldwell estate, plans for medical centre at Haunchwood Colliery, Tunnel-rd., for National Coal Board, and for licensed premises at Sycamore-rd. for Ind Coope & Allsopp, Ltd.

Oldbury.—BC approved scheme for building 1,100 dwellings at Whiteheath on land reclaimed from pit banks.

Oldham.—Finance Com. has approved in principle proposals of Town Hall sub-com. for scheme for new municipal offices, Council Chamber, committee rooms, assembly hall and concert hall. Cecil Howitt & Ptnrs. (F), Nottingham, to be invited to design building.

Otley.—UDC proposes erection of shops at Weston-la. estate.

Peterborough.—New three-storey extension to technical college is proposed and tenders expected this month. A: Portess & Richardson (L), Lloyds Bank-chbrs.

Rochdale.—J. W. Lees & Co. (Brewers), Ltd., propose erection of new licensed premises at junction Queensway/Dicken Green-la.

Rochdale.—By-law and TP permission to A. W. Whittle (Rochdale), Ltd., for 36 houses at Charter-st.

Rothbury.—RDC to build 16 houses at Longframlington. S: J. M. Oliver.

Salford.—TP approval to Very Rev. Dean Reynolds and Trustees of Salford Diocese for erection of Weaste-la. sec. mod. sch., Edward-ave., Salford 5.

Scarborough.—New shopping centre to be built at Northway, near railway station, by private developer; two car parks and another site, at St. Thomas-st., have been let on lease by Corporation and will be used for three-storey blocks of offices, showrooms and shops. Tenders to be invited shortly.

Seaham.—UDC approved plans for proposed ambulance depot for Durham CC. County A.

Sedgley.—UDC approved plans for 26 houses at Brownswall estate for Brownswall Estates, Ltd.

Sedgley.—UDC approved erection of 41 one-bedroomed Gregory flats at Jockey Fields site.

Sheffield.—Redevelopment of Netherthorpe, area of 100 acres bounded by Upperthorpe-rd., Hoyle-st., Brookhill, Bolsover-st., Crookes Valley-rd. and Addy-st., involving demolition of 2,317 houses and erection of 1,057 houses and a number of multi-storey blocks of flats, is planned to take place over next five years. City A.

Sheffield.—William Stones, Ltd., propose new hotel at Base Green estate.

Shrewsbury.—TC approved scheme for 16 aged persons' dwellings at Meadows estate, Harlescott.

Shropshire.—First instalment of new College of Further Education at London-rd., Shrewsbury, £186,000 est., has been approved for current year's programme. EC propose first instalment of Wellington College of Further Education, £245,000 est.

Skipton.—West Riding CC propose adaptations and extensions to Aireville Hall to form sec. sch.

South Shields.—TC to let contracts for erection of 88 bungalows at Whiteleas estate. Boro' E.

Stafford.—The Berkswich Methodist Church proposes new church at Walton-on-the-Hill.

Stockport.—TC to lease site at junction Middlesex-rd./Northumberland-rd., Brinnington, to Chester C of E Board of Finance for erection of new premises.

Stone.—UDC approved layout for 23 houses and 12 bungalows at Lichfield-rd. estate.

Sunderland.—Lionel H. Fewster & Ptnrs. (L), 22 Conduit-st., W1, are architects for 25 shops to be built at Hylton Red House estate for Ravenseft Properties, Ltd.

Sunderland.—Grantham & Co., house furnishers, propose to rebuild their block of premises, recently destroyed by fire. A: Stephenson & Gillis, Saville-chbrs., Newcastle.

Sunderland.—Congregational Church to be built at Grindon Village estate.

Thornaby-on-Tees.—Boro' E to prepare plans for 15 three-storey flats at George-st.

Tynemouth.—TC obtaining tenders for building 36 houses at Redburn View to plans by Boro' E, 16 Northumberland-sq., North Shields.

Tynemouth.—TC to let contract for 10 houses at Rowan-ave. Plans by Boro' E, 16, Northumberland-sq., North Shields.

Uttoxeter.—UDC proposes erection of new Council Chamber, £10,000 est.

Wakefield.—HC approved sketch plans for eight-storey block of 60 flats at George-st. site, for three-storey block as extension to existing Wheater House flats and for terrace houses and three-storey flats at Primrose-hill.

Wallsend.—Plans for extensions, to include library, dining-room and handicraft rooms at grammar school, have been approved. County A, County Hall, Newcastle.

Washington, Co. Durham.—Washington Chemical Co. to extend their chemical works at High Yard.—UDC to sell land at Church-rd. estate for erection of RC church.

West Bromwich.—Mitchells & Butlers, Ltd., propose erection of new licensed premises at corner of Kesteven-rd./Essex-ave., Hateley Heath.

Wigan.—EC propose extensions to John McCurdy Hall at Wigan Mining and Technical College, £250,000 est.

Worcestershire.—Sites and Buildings Com. recommends that following schools be built:—West Stourbridge, sec. mod., £113,600; Kidderminster Sion-hill sec. mod., £165,800; Bromsgrove Rubery Waseley Hills county (extensions), £52,820; Bromsgrove Rubery prim., £57,200; and Hollywood prim. (completion), £39,800 Also recommends that central boiler house

to serve Bromsgrove High School and College of Further Education be built at an estimated cost of £33,700. The major building programme, 1957-58, is as follows:—Reserve programme for 1956-57 carried forward—Redditch, Webheath county prim. (two-form entry junior), £50,000; Stourbridge, Wollaston Farm county prim., £54,000; Redditch RC sec. mod., £90,000; Wythall county sec. mod., £34,000; Redditch, St. Stephen's controlled prim., £50,000. Odbury sec. tech. (to be added to the reserve programme), £151,000; Redditch sec. mod., £108,000; Redditch, Batchley, £53,000; Martley District sec. mod., £98,000; Redditch, Headless Cross Infants', £43,000; Redditch RC prim., £48,000. Total cost, £779,000.

Worksop.—Plans for new multi-purpose town hall, to include theatre to seat 550, approved by BC. A: J. Haslam & Sons, Ryton-chbrs., Newcastle-ave.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Aberdeen.—Five-storey building wth three basement floors at site of former Palace Hotel, Union-st., for Cohesion, Ltd., London. *Alexander Hall & Son, Ltd., Aberdeen, £280,000.

Billingham, Co. Durham.—48 bungalows at Lincoln-cres. for UDC. S: J. H. Shepherd. *G. Wimpey & Co., Ltd., Orchard-ho., Newcastle-on-Tyne, £47,840.

Billingham-on-Tees.—Extensions to fertiliser plant for Imperial Chemical Industries. *Matthew Hall & Co., Ltd., Dorset-sq., NW1, £2 million.

Bury.—80 dwellings at Huntley Fold No. 4 site, for TC: *A. Spencer, 31, Bold-st., Accrington.

Carlisle.—42 houses at Morton estate for City C. City E. *Direct labour, £52,130.

Chard, Som.—13 houses at Hitchen for RDC. *G. T. Chubb & Sons, Ltd., Chardstock, Axminster, Devon. £17,670 (subject to Ministry approval).

Chesterfield.—New shop and flats at Gypsy-la., Old Whittington, for Chesterfield and District Co-operative Society, Ltd.: *A. F. White, 198, Derby-rd., Chesterfield.

Corby.—Erection of St. Columba Church at corner of Studfall-ave. and Dovedale-rd.: *A. W. Ambery, Geddington, Northants.

Durham.—New mod. sch. at Ushaw Moor for CC. County A: G. R. Clayton (F), South-st., Durham. *G. M. Pearson & Son, Ltd., Hetton, Co. Durham, £149,708 (subject to Ministry approval).

Durham.—Extensions to R.C. training college at Burnhall. *Cummings, Ltd., Matamba-ter., Sunderland.

Durham.—80 houses at Bowburn, 12 at Leamside, 30 at Witton Gilbert, and 12 at Kelloe for RDC. Council's Housing A: J. F. Willis, Byland Lodge, Durham. *Direct labour, £187,602 (subject to MH&LG approval).

Felling, Co. Durham.—Six blocks of three-storey flats at Leam-la. estate for UDC. Housing Officer: R. Morton. *John Clark & Son, Gregson-ter., Seaham, Co. Durham, £141,000.

Glasgow.—New administrative block of offices for Scottish Gas Board (Glasgow Division) at Central Stores Dept., Main-st., Bridgeton. James A. Ferguson, Divisional Construction and Administrative Engineer, 9, George-sq., Glasgow, C1. Excavation, building, etc., works, *Sir John Train & Co., Ltd., Merchant-ho., George-sq., Glasgow. Precast concrete, etc., works, *Springbank Quarry Co., Ltd., King-st., Johnstone, Renfrewshire.

Gravesend.—River works, including 800-ft. long jetty at new Northfleet power station for Central Electricity Authority. *Taylor Woodrow Construction, Ltd., £1½ million.

Greenock.—30 houses at Lyle-rd./Craigs Hill housing site. E&S: Robert L. Rankin, AMICE, Municipal-bldgs., Wallace-sq., Greenock. Principal contrs., *Mactaggart & Mickle, Ltd., West Regent-st., Glasgow, WC2.

Hartlepool.—New modern sch. at West View for Durham CC. A: P. R. Middleton (A), 17, Albert-rd., Middlesbrough. *G. M. Pearson & Son, Front-st., Hetton, Co. Durham, £92,818.

Jarrow.—Factory additions at Bede training estate for Morganite Resistors, Ltd. A: Turley & Williamson (A), 46, Jesmond-rd., Newcastle-on-Tyne. *George Henderson, East Boldon, Co. Durham.

Kidderminster.—New factory at Stourport-rd., for National Standard Co., Ltd.: *Sir Alfred McAlpine and Son, Ltd., Waterloo-rd., Wolverhampton.

Lanarkshire.—140 houses at Coatshill site for CC. *Direct labour, £202,383.

¶London (Air Ministry).—New works contracts to value £500 or over for week ended April 14:—*Building work*: *Thomas C. Stewart (Contrs.), Ltd., 42, Museum-st., Ipswich; *Robert M. Dovelas (Contrs.), Ltd., Gtors-rd., Cwmbwrla, Swansea; *F. Shepherd & Son, Ltd., Blue Bridge-la., York; *H. Holland, Ltd., 11, Falmouth-st., Newmarket, Suffolk; *Pochin (Contrs.), Ltd., King-st. Works, Middlewich, Ches. *Resurfacing work*: *Constable Hart & Co., Ltd., Lion House, Richmond, Surrey. *Artificers' work*: *G. H. Miller & Co., Ltd., Sheridan Works, Thorpe-rd., Forest Gate, E7; *John Williams (Liverpool), Ltd., 70, Collingwood-st., Liverpool, 5; *J. R. Deacon, Ltd., Lombard-st., Lichfield, Staffs.

¶London (British Railways).—Contracts placed by the Eastern Region: *Felco-Moore Maintenance Engineers, Ltd., 1, Wade-st., E14, repairs to coaling plant at Shoeburyness. *Braithwaite & Co., Structural, Ltd., "The Moorings," Church-rd., Great Bookham, Surrey, supply, delivery and erection of pressed steel water-storage tank at Temple Mills new marshalling yard.

London CC.—Erection of day school for ESN children at Rose Cottage site (Woolwich East). Under basis A contract would allow for fluctuations in both rates of wages and cost of materials; and under basis B for fluctuations in rates of wages only. H. T. Oliver & Sons, Ltd., Lambeth, A £79,133; W. J. Marston & Son, Ltd., Fulham, B £80,525, A £78,525; Wm. J. Jerram, Ltd., East Ham, A £77,950; Thomas & Edge, Ltd., Woolwich, A £76,400; Messrs. S. G. & A. Agombar, Beckenham, A £76,099; Whyatt (Builders), Ltd., Wandsworth, A £74,262; M. J. Gleeson (Contractors), Ltd., Cheam, A £73,596; *Halse & Sons, Ltd., Woolwich, A £70,095. Architect's comparable estimate on basis A is £69,692.

London CC.—Completion of housing development at Ocean estate, Stepney, by construction of 60 flats in two six-storey blocks and 65 tenants' stores. Halse & Sons, Ltd., Woolwich, £153,110; C. Miskin & Sons, Ltd., St. Albans, £150,984; Harry Neal, Ltd., St. Marylebone, £150,798; F. R. Hipperson & Son, Ltd., Dagenham, £150,130; M. J. Gleeson (Contractors), Ltd., North Cheam, £148,956; Thomas & Edge, Ltd., Woolwich, £147,600; R. J. Rowley, Ltd., Tottenham, £147,132; Gee, Walker & Slater, Ltd., Westminster, £145,297; Rowley Bros., Ltd., Tottenham, £145,057; *W. J. Simms, Sons & Cooke, Ltd., Westminster, £144,087. Architect's comparable estimate is £141,403.

London CC.—Dining hall, kitchen and ancillary works at Henwick county prim. sch., Woolwich West. Under basis A the contract would allow for fluctuations both in rates of wages and in cost of materials; and under basis B for fluctuations in rates of wages only. William Mills & Sons, Ltd., Greenwich, A £22,744; Harry Groves & Son, Ltd., Greenwich, A £22,152; Poolman (Builders), Ltd., Hendon, A £20,887; Frederick Smith & Co. (Builders), Ltd., Camberwell, A £20,497; Kerridge (Cambridge), Ltd., A £19,591; *John Harrison (London), Ltd., Camberwell, B £18,700. Architect's comparable estimate on basis B is £20,070.

London (MOW).—Contracts placed in week ended March 31:—*Cornwall:* Admiralty Housing, Manadon, erection of 37 officers' houses, *Dudley Coles, Ltd., Bath-st., Plymouth. *London:* Royal Hospital, Chelsea, SW3, alterations to in-pensioners' cubicles, *Thomas & Edge, Ltd., 25, Greens End, Woolwich, SE18. *Middlesex:* NPL, Teddington, attendance on engineers (new boiler house), *G. Moss & Sons, Ltd., Cranleigh Wharf, Lady Margaret-rd., Southall, Middx. Week ended April 7.—*Buckinghamshire:* Post Office, Great Missenden, alterations to sorting office, *Brown & Clark, Ltd., Prestwood, Great Missenden, Bucks. *London:* Western District Post Office, Wimpole-st., W1, internal decorations, *South London Decorators, Ltd., 9, Streatham High-rd., SW16. *Nottinghamshire:* Rampton Hospital, Nr. Retford, new sanitary accommodation in Block "E," *R. Moore & Son, Spencer-st., Mansfield. *Yorkshire:* Telephone Exchange, Falcon-st., Barnsley, alterations and adaptations, *G. H. D. Reid & Sons (Leeds), Ltd., 109, Kirkstall-rd., Leeds 3. Marston Moor, The Airfield, internal painting, *Bellerby's, Ltd., 45, Petergate, York.

London, SE.—New church of St. Clement, East Dulwich, to replace bombed church, for PCC. Rev. D. F. Strudwick, BA, Vicar. A: L. Keir Hett (F), of Searle & Searle, Amen House, Warwick-sq., EC4. QS: F. J. Arnott (A), FRICS, 28, Gt. Ormond-st., WC1. *W. J. Mitchell & Son, Ltd., 88, Dulwich Village, SE21, £39,487.

London, W.—Extension to Grosvenor House, Park-la., W1. A: S. Gordon Jeeves, MC (F), 61, Catherine-pl., SW1. *Taylor Woodrow Construction, Ltd., 10, Park-st., W1.

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¶London (War Dept.).—Works contracts placed for week ended April 7:—

Brecknockshire: Painting and decorating, *Ian Williams & Co., Ltd., Cardiff. *Dorset*: Building work, *Devon Contractors, Ltd., Exeter; road work, *Limmer and Trinidad Lake Asphalt Co., Ltd., Eastleigh; waterproofing huts, *Macartney, Ltd., London. *Essex*: Repairs to sea wall, *Dredging and Construction Co., Ltd., Kings Lynn. *Hampshire*: Miscellaneous, *G. W. Oliver & Sons, Ltd., Basingstoke. *Hertfordshire*: Heating installation, *Richard Crittall & Co., Ltd., London. *Kent*: Roadwork, *Richard Costain, Ltd., Canterbury: building work, *Turner & Watts, Sandwich. *Lincolnshire*: Repairs to rifle range, *G. A. Pillatt & Son, Ltd., Nottingham. *London*: Roofing work, *Haywards, Ltd., London. *Morayshire*: Miscellaneous, *Scottish Tarmacadam & Asphalte Co., Ltd., Glasgow. *Nottinghamshire:* Miscellaneous, *C. V. Russell & Son, Newark.

London, WC.—New premises at site bounded by Red Lion-sq., Drake-st. and Theobalds-rd., for Cassell & Co., Ltd., publishers. A: Tubbs, Duncan & Osborn (F/A), 3, Grays Inn-sq., WC1. QS: A. Boxall & Ptnrs., F/FRICS, 7, Queen Anne's-gate, SW1. *James Miller & Ptnrs., Ltd.

London, WC.—New building for University of London at north side of Gordon-sq. for University examinations, Institute of Archæology and Institute of Classical Studies. A: Booth & Ledeboer (F/F), 14, Lincoln's Inn Fields, WC2. QS: Wakeman, Trower & Ptnrs., 47, Bloomsbury-sq., WC1. Structural consultants: Andrews, Kent & Stone, 60-66, Wardour-st., W1. *Dove Bros., Ltd., Cloudesley-pl., N1.

Newcastle upon Tyne.—New hotel on coast road for James Deuchar & Co., *R. W. Bell & Son, Misletoe-st.—New offices at West-rd. for National Union of General and Municipal Workers. John Jackson & Son, Corporation-st., £50,000.

Northampton.—12 small dwellings at Newport-rd. for TC. ‡T. Wilson & Son, Ltd., 65, Sheep-st., £14,456.

North Down.—30 houses at Ballywalter for RDC. *Henry Gilmore, Kircubbin.

North Shields.—Factory additions for British Die Casting Co., Ltd., Geo. H. Gray & Ptnrs. (F), 52, Camden-st. *Hastie D. Burton, Ltd., King-st.

Nottingham.—12 houses at Walker-st., for TC: *Geo. Wimpey & Co., Ltd., London, £20,800.—9 houses and 5 garages at Aspley-pl., Alfreton-rd.: *Rostance (Builders), Ltd., Kings Meadow-rd., £20,613.

Peterlee, Co. Durham.—New mod. sch. at Acre Rigg, Peterlee, for Durham CC. A: S. W. Milburn & Ptnrs. (F), 9, Esplanade, Sunderland. *George Wimpey & Co., Ltd., Orchard-ho., Newcastle upon Tyne, £163,778 (subject to Ministry approval).

Rickmansworth.—47 garages at various estates. E&S. Fredk. A. J. Smith, Council Offices. *F. T. Evett, 151, Uxbridge-rd., Rickmansworth.

Scottish Special Housing Assn., Ltd.—Contracts placed February 22 to March 21, 1956:—(1) Site servicing: Niddrie Marischal, Edinburgh, 70 Dunedin, *W. Black, 2, Milton-cres., Portobello, boundary wall. (2) House erection: Newbattle, Midlothian, 15 shops, 12 houses (Agency), *S. S. Elect. Board, Musselburgh, electric services; Bellsmyre, Dumbarton, 256 Wimpey N/F, *G. Wimpey & Co., Ltd., 37, Drumsheugh-gdns., Edinburgh, all trades; Aberdour-rd., Dunfermline, 52 Cruden, *Alexander & Son, Belford-rd., Edinburgh, handrails; *T. P. Marwick & Co., Sighthill Industrial Estate, Edinburgh, fencing; White-st., Whitburn, 36 Unitroy, *Anderson & Bell, 501, Lawnmarket, Edinburgh, handrails; Post Hill, Sauchie, 92 Traditional, *Scottish Gas Board, Alloa, gas services; Bellfield, Kilmarnock, 50 Miller, *J. Miller & Ptnrs., Ltd., 18, George-st., Edinburgh, all trades; Lintwhite, Bridge of Weir, 28 Blackburn Mark X, and Beith-rd., Johnstone, 20 Blackburn, *Blackburn (Dumbarton), Ltd., Castle-rd., Dumbarton, all trades; Hayshead, Arbroath, 50 Traditional, *Peter Herron & Sons, 22, Ponderlaw-st., Arbroath, handrails; Aberdour-rd., Dunfermline, 72 Dunedin, *Scottish Gas Board, Dunfermline, gas services; Cunninghar, Tillicoultry, 50 Traditional, *T. Buchanan & Son, 18, Minto-gdns., Alva, handrails; Post Hill, Sauchie, 92 Traditional, *S.S. Electricity Board, St. Ninians-rd., Stirling, electric services; Imperial Drive, Airdrie, 50 Traditional, *A. M. Tweedie & Co., Ltd., Glasgow, fencing; Fudstone, Kilbirnie, 40 Bellstone, *Lanarkshire Builders, Ltd., Mossend, Bellshill, all trades; Park Farm, Port Glasgow, 46 Unitroy, *T. P. Marwick & Co., Sighthill Industrial Estate Edinburgh, fencing; Knock Farm, Renfrew, 26 Traditional, *Barnet & Morton, Ltd., 196, High-st., Kirkcaldy, fencing.

Seaham.—14 houses at Henry-st. for UDC. S: A. M. Smith. *Direct labour, £20,219.

Seaham.—36 houses at Clara-st. and 64 at Denehouse-rd. for UDC. S: A. M. Smith. *John Laing & Sons, Dalston-rd., Carlisle.

Smethwick.—New home for aged persons at Hill Crest, for TC: *C. Green & Sons, Ltd., 132, Monument-rd., Edgbaston, Birmingham.

Swaffham, Norfolk.—New explosives factory for Brock's Crystal Palace Fireworks, Ltd., of Hemel Hempstead, Herts. *Potter Bros., Yaxham-rd., Dereham, Norfolk.

Tipton.—144 dwellings at Princes End site: *Rock & Downes, Ltd., 115, Walsall-rd., Aldridge, Walsall.

Wallsend.—Extensions to Civic Hall, £21,000 est. *T. Clements & Sons, Selborne-gdns., Newcastle.

Walsall.—Reconstruction of premises at Bridge-st., for Walsall and District Co-operative Society, Ltd. *Deacon & Boardman, Ltd., Algernon-st.

Watford.—461 dwellings and 76 garages at Meriden housing estate for BC. QS: V. B. Johnson & Ptnrs.,

Faircross-ho., High-st., Watford. *Carlton Contractors, Ltd., Lingfield-cres., Rochester-way, Eltham. SE9. £701,046.

Wednesbury.—16 houses at Beech-rd., for TC: *S. J. Smith & Co. (Bidford), Ltd., Smith-rd.

West Hartlepool.—34 houses at Owton Manor for TC. Boro' A: A. G. Sinclair (A), Municipal-bldgs., West Hartlepool. *W. Brazell (West Hartlepool), Ltd., Elwick-rd., and J. Peel, Seaton Carew (joint tender).

Wolverhampton.—104 dwellings at Wednesfield site No. 3, for TC: *Bishop Burns & Co., 21, Nenson-av.

Workington.—New maternity block at Workington Infirmary for Newcastle Regional Hospital Board. A: Oldfield, Simpson & Saul (F/L), National Provincial Bank-chbrs. *John Twiname, Ltd., Cockermouth,

ADA Research Reports

The Aluminium Development Association has published two research reports entitled "Researches into the Welding of Aluminium and its Alloys (Research Report, No. 27) and Column Tests on some Proposed Aluminium Standard Structional Sections (Research Report No. 28). The first is a summary of the work of the ADA welding research team at the University of Birmingham from 1944 to 1950. Report No. 28 deals with tests undertaken with regard to the possibility of introducing some new and efficient standard structural aluminium sections. These reports (price 7s. 6d. each) can be obtained from the Association, 33 Grosvenor-street, London, W1.

"Annual Digest"

The eighth *Annual Digest* for the year ending March 31, 1955, has been published by the Scottish Special Housing Association, Limited, 15-21, Palmerston-place, Edinburgh. The many activities of the association are listed, together with a short history and reasons why the association came into existence.

The digest also has diagrams which simply explain finance and labour particulars. It is illustrated with photographs of some of the many kinds of dwellings the association erects.

New Showroom

A new showroom has been completed by Beckett, Laycock and Watkinson, Ltd., Acton-Lane, NW10, exhibiting a variety of products ranging from ash bowls to fully watertight promenade deck windows for passenger liners. The showroom is divided into three separate sections, each containing products applicable to the company's rail, road and marine sections, and various applications are shown of other items, such as the 9S sash balance, "Beclawat" silent window channel, and sliding door gear.

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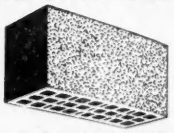
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